

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. X.

JUNE, 1913.

No. 114.

Original Articles.

SOME CASES OF MENTAL DEFICIENCY.

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LADIES AND GENTLEMEN,—Before I start to show you the cases which have come here to-day, I would draw your attention to a table which represents roughly a fairly satisfactory classification of the various classes of mental deficiency as they are at present recognised :

First group.—(1) Simple ; (2) microcephalic ; (3) Mongolian ; (4) hydrocephalic ; (5) sclerotic.

Second group.—(1) Epileptic ; (2) encephalitic ; (3) hydrocephalic ; (4) traumatic ; (5) amaurotic family idiocy ; (6) toxic and syphilitic.

Third group.—(1) Sense deprivation—(a) deaf and dumb, (b) blind ; (2) athyroidism or cretinism.

The first group includes those children who are born mentally deficient, *i. e.* whose brains have undergone some change *in utero* so that power of development is arrested, or whose brain-tissue is of such a quality that it is incapable of perfect development after birth.

The second group includes those children who, normal at birth, have during life suffered from some cerebral injury or been affected

* A Post-graduate lecture delivered at the Queen's Hospital for Children.

by some disease which for the time, or for all time, has so damaged the brain that further development is hindered or entirely arrested.

Intermediate between these two groups I would put a third, where the mental deficiency is due to deprivation of certain special senses, such as sight, hearing, or to the absence of certain internal secretions, such as thyroid secretion. These children, if properly educated or if provided with the substance of the organ which is lacking, are capable in some cases of taking their place again in the ordinary ranks of their fellow-creatures.

To-day I propose to deal with the cases in the first and third or intermediate groups. These form by far the greatest bulk of imbecile children (about 90 per cent.), and are therefore the more likely to come under your observation.

Taking the smallest group first, I show you here a very pathetic little patient who illustrates well the mental deficiency which may arise from deprivation of special sense—where education is not undertaken or attempted.

The child (M. A—) is aged 2 years 8 months. She looks like an infant of one year. Her history is that she was born and remained an apparently healthy baby until three or four months old, when she was attacked by whooping-cough and had some inflammation of her eyes, which was apparently very severe and neglected, and which speedily resulted in the destruction of sight in both eyes. At an age when an infant begins to take notice of surrounding objects, in other words, commences to develop his intelligence, the child was deprived of one path of knowledge—namely, sight. Now, in addition to that, her home is of the lowest class—the mother works for her living—so that the unfortunate child has been probably laid aside all day in a bed or basket, and no attempt has been made to encourage her mental development by the remaining sensory paths, namely, hearing, touch, etc.

Like so many imbecile children she screams fitfully and miserably. She is very difficult to feed with any solid food, and has no idea of indicating when she requires to relieve the bowels or bladder. She cannot sit up. The head is extremely small and there is general stunting of growth.

I have no deaf and dumb imbeciles to show you, so I pass to the next deprivation group, namely, that due to failure of the thyroid secretion, or cretinism. Of these I can show you cases in nearly all stages.

The first child is H. R—, an infant aged 9 months. He was brought to hospital “because he was not quite like other babies.” At

his first attendance at out-patients I made the following notes about him: The infant can neither sit up nor hold his head up. The head itself is well developed and normal for age. He is quite apathetic—his expression is one of sullen scowling discontent, an effect largely produced by the deep transverse wrinkles in the skin of the forehead. The eyes, which are very wide apart, are small, round, sunken, and rather pig-like in character, and the bridge of the nose is broad and flat. The tongue, which is large and purple, is kept constantly protruded. The skin generally is of a yellowish-white colour, while the subcutaneous tissues have a puffy oedematous appearance. In places the skin is wrinkled and loose, especially on the back of the hands. There is a large umbilical hernia, and the extremities generally are cold and slightly cyanosed. He is said to be very constipated.

The description which I have just read to you will, I think, be found to be true of the appearance of most cretin babies of this age.

We put this baby for the first three weeks on $\frac{1}{4}$ gr. of thyroid extract (Burroughs and Wellcome) twice daily. At the end of that time the bowels were almost regular. At the end of the sixth week he was given $\frac{1}{2}$ gr. twice daily. At this date his mother said she thought he was much brighter. At the end of the ninth week he was given $\frac{3}{4}$ gr. twice a day. His tongue was now distinctly beginning to recede, the wrinkles on his forehead were disappearing, the hernia was smaller and the bowels were quite regular. You see him now at the end of the eleventh week; the frowning look has given place to an inquiring, half-pleased expression, there are scarcely any wrinkles on the forehead and the tongue has receded altogether. With all these rapid changes, however, there are still marked symptoms of cretinism in the flat nose, the small wide-apart eyes and the general backwardness, which is shown in the inability to sit up, and the strange absence of movement which one usually associates with a baby of this age. The emotional faculties are also not yet aroused, for he never smiles and rarely cries.

The next case I show you is another infant, A. N—, aged 1 year and 5 months. The appearance of this child when she first came to out-patients was almost identical with the description I have given you just now.

There was the same frowning expression, the same large purple protruding tongue, the same curious small sunken eyes, while the subcutaneous tissues were boggy and bloated. This infant could not sit up, had no teeth, the fontanelle was very wide open, there was a large umbilical hernia, and the bowels were very constipated.

Thyroid was given as in the above case, and you can now see the result of eleven weeks' treatment. The tongue no longer protrudes, the hernia is much smaller, the bowels act twice a day, the eyes are bright and seemingly more prominent, and the child smiles and takes notice. On the other hand, the tissues are still slightly myxœdematous, and the presence of a sluggish circulation is still evident in the swollen and rather dusky extremities.

The third child I show you came to out-patients when it was $6\frac{1}{2}$ months old. It is now thirteen months old, so that it has had seven months thyroid medication. The features in this case were identical with those of the preceding patient, and I shall therefore not spend time recounting the various symptoms she presented when she was originally brought to hospital; it will be sufficient to draw your attention to her present appearance. I think you will agree with me when I say that so far as her general aspect goes she resembles an ordinary baby, in fact she smiles, cries, moves, feeds and generally behaves like an infant of thirteen months. This case illustrates admirably the good results which may be obtained by early treatment.

The fourth case which I show you of this disease indicates, on the other hand, how unsatisfactory is delay in diagnosis and treatment. The child in question, L. C—, aged 5 years and 7 months, has now been attending hospital for $3\frac{1}{2}$ years, so that treatment did not commence until the child was two years old. When first brought to hospital her appearance was as follows: Body and limbs very small, about the size of a ten months' baby; head, on the other hand, large, fontanelle wide open, hair dry and sparse, skin of forehead in numerous wrinkles, eyes small, sunken, wide apart, nose flat, very *retroussé*, teeth absent, tongue large, protruded about $\frac{3}{4}$ in., skin of body loose, wrinkled, and dry and scaly, face and tissues generally puffy and bloated, abdomen pot-bellied with large protruding umbilical hernia; she cannot sit up, takes little or no notice, and has never spoken. The bowels are exceedingly constipated and the temperature is 97° F.

In that description you have most of the features of mental deficiency in infancy combined with all the chief symptoms of sporadic cretinism.

Treatment in her case was begun on the same lines as in the previous children. The thyroid was increased gradually from $\frac{1}{4}$ gr. *t.i.d.* to 2 gr. at the end of a twelve-month. Improvement was rapid at first; all the gross features of the disease had disappeared by the end of the fifth month. After twelve months' treatment she could sit up alone, had twelve teeth, smiled, took a certain amount of notice, and tried to say small words like "mum" and "dad." At

the end of eighteen months she was said to be very bright and happy, could pull herself up and stand by a chair. With the end of the second year she could walk, had all her teeth, could repeat a number of small words, and had grown and developed to practically the normal height and weight, etc., for her age.

As you see her now I do not think you could positively say that she exhibits any marked symptoms of cretinism. The nose is perhaps a trifle flat and the eyes a little wide apart; otherwise she is well-grown, has a lot of pretty, fair hair, and her skin and complexion are perfect. She talks, but mostly in repetition and not spontaneously. Like so many weak-minded children she sings and hums tunes with considerable accuracy, and she is in addition a great mimic. In conclusion she has no bad habits and is always happy and bright, but I am afraid that her intelligence will never be of a very high order.

In addition to the cases which show marked features of cretinism in babyhood there is a type which does not call for much attention before the child is some years old. This little girl, N. V—, is a splendid example of that condition. She is aged 12 years, and is, as you notice, about the size of a child of seven. She attends an ordinary elementary school, but is only in the second standard, and, according to her mistress, is rather dull for that. When you come to examine her you find that she has all the characteristics of this disease in a mild degree. Her skin is dry and scaly, her chest narrow and small, while the abdomen is protuberant; and there was before treatment was commenced a small umbilical hernia. There is in addition a marked lordosis. When I saw her first she had quite definite supra-clavicular pads. She has the typical features, viz. the flat nose and the wide-apart eyes. In temperament she is quiet and good-natured, talks quite intelligently, and is good at needlework, but she is rather slow in everything she does and says. She is now having thyroid extract 2 gr. (Burroughs and Wellcome) *t.i.d.*, and is said to be improving very slowly. She will certainly earn her own living.

These cases, I hope, give you a fair idea of sporadic cretinism. It is, I think, a distinctly rare disease in London.

The points I should like to emphasise in regard to these children are: (1) the necessity for early diagnosis and treatment; the sooner you commence to treat these children the more likely are you to produce a fairly normal child in later life; while if there is any considerable delay there is not the slightest doubt that you will achieve very little more than an average high-grade imbecile. Two

years ago I had a boy attending my out-patients, aged 10 years, who was a cretin, and who had been treated with thyroid since he was seven months old. I think at first sight you would have had some trouble in detecting anything wrong with that boy at all, at the worst you might have classed him as a rather dull child. On the other hand, the little girl, L. C—, whom I showed you, indicates how unsatisfactory is the outlook when treatment is delayed.

Every now and then I think you will come across a cretin, who, in spite of early treatment, will not react in a satisfactory manner to thyroid. The explanation as to why this should be so is not altogether clear, but we may presume that in these cases we are not dealing simply with a case of athyroidism alone, but of probably primary amentia in the first instance with super-imposed athyroidism.

The second important point is the question of dosage. I have in my mind two cases; both were infants; one was four months old and the other twelve months. The first was a case of my own, the second was an in-patient under a late colleague of mine at this hospital. Both infants were given the old dry thyroid extract $\frac{1}{4}$ gr. *t.i.d.* My colleague's case died quite suddenly a few days after the beginning of the administration of the thyroid from causes then not very clear. In the case of my infant the mother came and demanded a death certificate after four days, stating that the child had had a little diarrhoea and had died quite suddenly. Now both these cases died, I think, as the result of an excessive dose of thyroid. If you follow the dosage I have recommended I believe you will avoid this unfortunate, or perhaps from some point of view, fortunate catastrophe. The last point in the treatment of these children is to remember that when commencing thyroid in the older cases, or in those where the effects of thyroid inadequacy are delayed or slight, often considerable bending of the bones of the lower extremities takes place; you should therefore warn parents on this point, and limit for a while the amount of exercise when treatment is first begun. I had a delayed case in a little boy of six years, whose tibiae after a few months' treatment suggested quite bad rickets. He has recently disappeared from my out-patients, so that I am unable to show him to you to-day.

Prognosis.—As regards prognosis you will have seen from these children that there are two classes of cases: one which calls for treatment early, and one in which, for reasons which I cannot explain, there are no very evident symptoms until some years of childhood have elapsed. Again, in the first group of cases

it would appear that a certain number react quickly to treatment, while a few show a distinct reluctance to yield to thyroid medication. Therefore, while you may promise an almost immediate improvement in outward appearance and physique, you should be guarded on the point of future intelligence. Time alone will give you an idea of what that is going to be.

The third type of mental deficiency to which I now pass is also distinguished by a characteristic external appearance. This is the Mongolian imbecile. The name, as you know, is derived from the peculiar upward and outward tilt of the eyes—this I would impress upon you is not always a very marked feature—and the curious round or brachycephalic skulls.

I have three children of this class to show you. They are all three infants. I should have liked to have shown you an older Mongol, so that you might have seen how deplorably ugly these unfortunate children become when they grow up, but for reasons which I shall tell you later these older Mongols are much more rarely seen than the baby type, which is comparatively common.

The first baby I show you, D. T—, is now eleven months old. Her mother brought her to hospital for constipation. On questioning her closely she confessed that although the child was very bright, she didn't think that she was quite like her other children. If you examine the infant you will notice that the head is small and rounded, so that the occiput is almost in a line with the neck; the eyes are small and oval in shape; and the palpebral fissures are directed upwards and outwards. There is also a fine lateral nystagmus and well-marked epicanthic folds. The nose is small, the ears are round, and the various convolutions are feebly developed. Her tongue while she is awake is constantly being protruded and withdrawn; this, combined with other irregular movements of the facial muscles, suggests that the child is constantly grimacing. In the intervals when not so occupied she is, as her mother says, outwardly bright and smiling. This feature sometimes deceives medical men in regard to the intelligence of these children.

The second infant, R. T—, aged 14 months, exhibits all the same points you have just seen in the last child, and in addition she shows very beautifully the very short and very curved little fingers which many of these Mongols are supposed to possess.

The third case is a boy, aged twenty-five months, who is afflicted with what nearly all these children suffer from at some time or other, namely, marked nasal obstruction. Listen to the horrible snuffling noise he makes. The causes of this obstruction are three:

(1) A very small nasal space, which is further curtailed by (2) the frequent presence of adenoids, and (3) by a backward prolongation of the vomer of the nose (Still). The adenoids which were present here were removed with some slight improvement when the child was fifteen months old. He has always been difficult to feed, first on account of his nasal obstruction, and now because, like so many imbecile babies, he spits out all solid food that is given him. In addition to his Mongolian characteristics he is very backward in other respects; he cannot sit up, has only two teeth, and his fontanelle is still wide open.

Now that the parents have gone I will tell you a few more facts about these children.

First of all, none of them—however apparently bright—will earn their own living. The best of them will be able to help in simple things in the house or garden. Another point about the future of these children is that they rarely survive puberty. There are very few adult Mongols in the asylums of this country. I would go further and say that very few of these children survive the first four years of life. I have had six of these infant Mongols brought to my out-patients this year, and of these three are already dead before they are two years old. One died of bronchitis; another contracted diphtheria, recovered, but shortly afterwards caught measles and died; the third got a moderately bad attack of diarrhœa and died in a few days. Lung diseases are especially a common cause of death of these children. The infant type die of bronchitis and broncho-pneumonia, and the older Mongols of tubercle. A few have congenital heart disease, and occasionally this is sufficiently severe to produce death.

If they survive five years of age, these children, in my experience, grow up along two distinct lines: they are either very quiet, placid, and affectionate, or they are very outwardly bright, mischievous, and inquisitive little people. The first are slow moving, stunted, often waddling in their gait. The second type is always on the move, poking fingers into everything, laughing and making curious noises. Both are very ugly, have small heads, little oblique eyes; often affected with marked blepharitis; have high-coloured cheeks, the skin of which usually becomes as they grow older dry and scaly. Their snub noses and often open mouths make a hideous picture. If uneducated they are constantly grimacing and protruding their tongues, slobbering, and making uncouth noises.

Some of them talk, but their speech is guttural and very indistinct. They are very affectionate and very jealous for the same

reason. I had one girl Mongol of 11 years, who would rush into the out-patient room and attempt to seize me round the neck and kiss me. Sometimes they are very nervous. They are great mimics, and some of them possess, like so many idiots do, a very musical ear.

The fourth type, which I am now going to show you, is that of microcephaly. As the name indicates, the principle feature of the class is a very small head; not only is the circumference of the head small, but there is also a marked relative disproportion between the growth of the face and lower parts of the skull and the vault. Thus you notice that in both these children, and especially in one (J. K—), there is a fairly well-developed face, but the whole of the upper part of the skull is ridiculously small and the frontal region is pinched and narrow. Most idiots have a skull which is below normal in size for the age, but only this type have this curious disproportion in the different parts of the skull. In addition the fontanelle often closes early and is apparently sometimes closed at birth. I show you two cases of this kind: The first one, and the most marked, is J. K—, aged 17 months. She is brought to hospital because she cannot sit up or stand, and is always making curious faces, her tongue is always lolling out, and she is constantly dribbling saliva; all four limbs are rather rigid, and you notice that she presents, in a very marked degree, the type of skull that I have just described to you.

The second child, M. P—, aged 2 years, is very small for her age, she cannot sit up, cannot even hold her head up, but she takes notice, smiles, and makes noises resembling “mum” and “dad.” She is the reverse of this other child, in that all her muscles are extremely flabby. The circumference of the head in this case is only 16 in., when, as you know, the average at two years should be about 19 in. In the former case the circumference was only a little over 15 in.; the disproportion between the vault and the face is not so obvious in this case as in the younger child.

The prognosis in these cases is a difficult one: the degree of intelligence present is very variable; a great many die young, a number grow up helpless idiots, a few are possessed of a moderate amount of mental power, and under careful guidance and education will be found capable of following some simple manual vocation.

The next distinctive type of mental deficiency I show you is that known as paralytic or sclerotic idiocy. In these cases the damage to the brain, which occurs *in utero*, not only affects that part of the brain which is concerned with intelligence, but also may include

the motor areas, so that the child may present not only mental deficiency, but in addition some degree of paresis as well. The damage to the motor area may be partial or more or less complete. Thus both legs may be affected, when we shall have a paraplegic imbecile; or all four limbs and trunk may be implicated, when we shall have a wide-spread paralysis, or spastic diplegia as it is termed.

This child, N. L—, is an example of mental deficiency and spastic diplegia. He is five years old, and can only walk with difficulty if supported under the armpits. All four limbs are exceedingly rigid, the legs more so than the arms, the reflexes everywhere are very brisk, and the plantar reflex is extensor. His head is extremely small, but has not the curious features which I told you were characteristic of microcephaly. This child is subject to convulsions of the *petit mal* type. This is not an infrequent complication of mental deficiency, and is often of bad omen. If the fits are frequent—and they usually are so—the mental state will gradually depreciate until there is often complete dementia. In other respects this boy can say a few words, and is clean in his habits; the latter is largely a matter of training, and this child is blessed with an excellent mother.

The second child, I. R—, is an example of paraplegia and imbecility. You will notice that both his legs are rigid, and that when supported he walks with a cross-legged progression owing to the spasm of his adductors. In addition to his paralysis he has many of the failings of the mentally deficient and very few redeeming qualities; thus he slobbers, has no control over his motions. On the other hand, he can say a few words and takes a good deal of notice; he is certainly capable of further education, and I think he will eventually walk.

The last group with which I deal is that which is termed “genetous idiots”—simple primary amentia and unclassifiable mental deficiency. This class forms very nearly 50 per cent. of all cases of mental deficiency. It is called “simple amentia” because there are no distinguishing features beyond the lack of intelligence, and is called “primary” because the child is born with it. It is also called unclassifiable because it contains all kinds and degrees of the mentally deficient children, from the lowest grade idiot to the child whose intelligence is only just below normal. The few cases I have brought here illustrate the protean character of this class.

Here is one, A. W—, aged 8 years, a fairly normal child to look at, but he has a curious distinct and rather sulky expression. He

was brought to hospital because he was so nervous, had inexplicable attacks of passion, and slept very badly. All these three features are common to mentally deficient children, but taken alone they do not necessarily indicate mental deficiency. On inquiry you find he can talk, but doesn't know his letters, can't count, is very irritable, and is spiteful; is inquisitive, is very passionate if thwarted, and of very hasty disposition. His memory is very bad; he lacks all power of application.

That is a fairly usual description of a higher grade mentally deficient child. This boy will probably ultimately attend a special school, and will improve considerably.

Here is an entirely different child (L. C—, aged $4\frac{1}{2}$ years). He was brought to hospital at $3\frac{1}{4}$ years because he was weak on his legs and couldn't talk. He had then only just began to walk; he chatters volubly in his own language; he also is very nervous and irritable if thwarted. When he wants anything he points to it; he can appreciate between right and wrong; he hears, but has that curious inertness for sound which some mentally deficient children show.

To look at he is a bright, cheerful, well-developed little boy, with no outward stigmata. His history from birth gives you an excellent idea of the usual features some of these children display, and which, when there is no characteristic appearance about the child, should lead you to suspect that later he will be mentally deficient.

Thus as a baby he was always sleepless, irritable, and screaming, although he was breast-fed, and never had any difficulty with digestion or bowels. He couldn't sit up until he was one year old, and he didn't attempt to walk until three, although there was no rickets. He had no proper control over motions and urine until he was three years and five months old. He can now say a few monosyllabic words, but they are generally repeated parrot-wise. He indicates everything he wants by gestures.

M. A—, aged $2\frac{1}{2}$ years, belongs to another unclassifiable type. She has always been backward since birth. Refuses to use her left arm, which is quite flabby, although there is no evidence of paralysis. She talks fluently, has a squint, is very nervous, and has a double talipes calcaneo-valgus which prevents her walking. Deformities are not uncommon with these mentally deficient children. They have ill-formed brains and often ill-formed bodies.

J. L—, aged $3\frac{1}{2}$ years, another of the same class. Can't talk; walked at two years; very dirty in his habits; has "no sense." His fontanelle was wide open at three, and he still takes the bottle.

He has a very large head, but there is no evidence of hydrocephalus. As a rule, imbecile and idiot children have heads which are smaller than normal, but there are exceptions, and this is one. Size of head is not evidence of intelligence ; it is quality and not quantity that counts.

J. R—, the last child that I show you, is a case of simple amentia, but he is, in addition, suffering from another disease. He is brought to hospital because he is weak-minded and also weak on his legs. You notice, first of all, that his calf muscles are very large and bulky, that the muscles of the front of the thigh exhibit irregular enlargements, and that as he stands there is marked lordosis. Going higher, you see that there is wasting of his *latissimus dorsi*, and that the *infra-spinati* stand out like a professional strong man's muscles. His deltoids are enlarged in their upper part and slightly wasted below, and there is evidence that there is some wasting of the lower part of the pectorals. If you make him walk, he plants his feet wide apart and walks on a broad base. If you place him flat on the ground, he rolls over and rises by climbing up his legs. In other words, he presents most of the signs and symptoms that we associate with the disease known as pseudo-hypertrophic muscular paralysis, and he is, in addition, slightly mentally deficient.

That completes all I have time to tell you to-day about mentally deficient children ; the question of treatment is a large one and must wait to another day.

A NOTE ON AN EPIDEMIC OF MEASLES AT ROTUMÁ, 1911.*

By B. GLANVILL CORNEY, I.S.O.,

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It is now just twenty-nine years since I had the honour to lay before the Epidemiological Society a record of the great measles epidemic which took place in the Fiji Islands in 1875.† What

* A paper read before the Epidemiological Section of the Royal Society of Medicine on Friday, February the 28th, 1913.

† 'Trans. Epid. Soc. Lond.,' N.S., 1883-4, iii, p. 76.

I am permitted to relate to you now records, I regret to say, a similar calamity which has but recently befallen the interesting native community inhabiting the little island of Rotumá, an outlying dependency of the colony I have just named. In the paper referred to, I mentioned that, as far as I could vouch without my notes before me, measles had not up to that time (1884) extended from Fiji to Rotumá, nor to other adjacent clusters of islands. Since then, Tonga has acquired it from New Zealand; and Fiji experienced a second but milder epidemic of it in 1907 from the same source, when the mortality amounted—using round numbers—to 1800 out of 30,000 cases in a native population of about 89,000 who had had no contact with measles for thirty-two years. It is a fact, however, that Rotumá continued to escape infection until the early months of 1911, and it is to what has taken place at that island in this latter year that I now invite your attention for a few minutes only, because my statement will necessarily be confined to bare facts and a few figures, for a reason that will appear.

As Rotumá is but little known to the outside world, perhaps I may be excused if I offer a brief description of it and its geographical position. It is situated in latitude $12^{\circ} 30'$ S. and longitude 177° E., some 260 sea miles distant from the nearest part of the Fijian archipelago, from which it bears N.N.W. The most southern atolls of the Ellice Group lie about the same distance off in a north-easterly direction, and the nearest of the Samoan islands is Savaii, 600 miles E. $\frac{1}{2}$ S. from it. It is of volcanic origin, being formed mainly of igneous rock, and the products of its gradual weathering and disintegration, but is girt about all around at the sea-level with a fringing reef of coral. Its highest point reaches 840 ft. above the sea, and though no fewer than six ancient crateriform vents are recognisable, none of them have been active within the ken of local tradition or legend. The area of Rotumá is but 14 square miles, its total length is less than 9 miles, and its width varies from a stone's throw to 2 miles and 1280 yards. In dealing with the land I am employing statute miles.

Although but a tiny spot upon the face of the waters, Rotumá is one of the most fertile and productive of South Sea islands; while, notwithstanding its remoteness and isolation, and in spite of Home Rule holding sway amongst them, its couple of thousand natives rank with the most prosperous, law-abiding, gentle and loyal subjects of the British Crown, under whose ægis and protection they came in 1880 by virtue of their own independent desire.

It was therefore a most unfortunate circumstance that, on

January the 29th, 1911, a steamer called at the island with a case of measles on board. Whether it was definitely apparent, or as yet only in the incubative or pre-eruptive stage, I am not aware. The government of the island is administered by a European Resident Commissioner; and the Fijian Ordinance to regulate pratique and quarantine matters is not only in force at Rotumá, but there are special restrictive regulations made under it applicable to communication with this island. It is now some twelve or thirteen years since a recommendation I made that a medical officer should be selected for the position of Resident Commissioner was acted upon. But owing to the debilitating nature of the climate, which is not merely hot, but very humid, it is necessary to allow the Commissioner leave of absence at least once in every two years. This officer had proceeded on leave in the customary way towards the close of 1910; and the exigencies of the service in Fiji at that time made it impracticable to supply a medical deputy to act for him during his absence. So that, briefly stated, the infected steamer arrived at Rotumá at a moment when there was no medical officer on the island; communications took place, and measles became implanted amongst the people. I am in a position to state positively that this disease had never previously visited Rotumá during the lifetime of the generations now living; but the late paramount chief of the island, whose titular designation is Marafu, told Professor Stanley Gardiner* in 1897 that "when he was a boy measles ran through the whole island, and, he believed, carried off about one person in every house." Marafu remembered, too, to "have heard of an epidemic which followed the great Malhaha War, and was still more fatal." Whether Marafu really knew what measles, as differentiated from other zymotic diseases, means, is an open question, for it is within my personal knowledge that intelligent Fijians have sometimes used the term *misila* in reference to any wide-spread epidemic, such as influenza or dengue, since they learnt it in 1875. Marafu was an oldish man in 1897, and is not now living; it is reasonable to suppose that "when he was a boy" might refer to any time between 1830 and 1850. Peter Dillon, who was at Rotumá in 1827, described it as eminently thriving and populous, and mentions that "there were more than a dozen white men, deserters from whale ships, then living there, and all of them married two or three wives, according to the custom of the country,

* "The Natives of Rotumá," by J. Stanley Gardiner, B.A. Communicated by Professor Alexander Macalister, M.A., F.R.S., to the Anthropological Institute. *Vide* Journal, February and May, 1893.

and had large families growing up.”* Another voyager—Lucett, I think—writes of as many as fifty-four white men being there about ten years later.† The Malhaha War occurred between 1800 and 1805, as nearly as can be fixed; and it is a significant fact that there is other evidence, both traditional and in print, of a very fatal and wide-spread epidemic of undetermined identity having prevailed in many of the Pacific island groups in 1802 or 1803, when whaling vessels and sandal-wood traders were beginning to become really numerous in those seas. That such was the case in Hawaii and in Fiji is certain; and there is reason to think that in the latter islands, where it was heralded by a parti-coloured three-tailed comet, and marked by an eclipse, the symptoms quoted in the native saga seem consistent with the idea that it may have been measles followed by ileo-colitis, as has happened since.

More than eighteen months have passed since I received, in private letters, news that my friends in Rotumá were in trouble. Measles had broken out there, during the medical Resident Commissioner's absence on leave, and the deaths due to it and its sequelæ were proving very numerous. A few further remarks of a general nature confirming this appeared in the Fijian newspapers, which may be seen in London at the Royal Colonial Institute. But it was not until December last that the Commissioner's Annual Medical Report for 1911 came to my hands. From it I cull the particulars which, though dealing generally with vital statistics as an annual report should do, has in it some passages with special reference to measles. I may here explain that during the time I was Chief Medical Officer of Fiji a monthly medical report was rendered me by the Commissioner at Rotumá—a practice which I presume has been continued to my successor; but those reports are not printed, and I have naturally not been in touch with them since my retirement from office, which dates from 1908. The population of Rotumá in my time fluctuated but little, and stood usually at about 2200; but it is believed with reason that it was quite double that number in the first half of the last century, though I doubt whether it even reached 5000, as an eminent missionary, the late Mr. James Calvert, has suggested.

I now proceed to quote from the Commissioner's (Dr. Hugh MacDonald) Report‡ :

* ‘Narrative . . . of a Voyage in the South Seas . . . by the Chevalier Captain P. Dillon’: London, 1829.

† ‘Rovings in the Pacific,’ by a merchant long resident at Tahiti; London, 1851.

‡ Legislative Council Paper No. 28, Fiji, 1912 (Annual Medical Report, 1911).

"The estimated population of the island at the mid-year was 1973 persons ; and the actual number ascertained by a census taken on November the 27th was 1983.

"The births numbered 79, and the birth-rate, calculated on the number of people on November the 27th, only reached 39·8 *per mille*. This is a low rate for this place where rates of 50, 52, 56 and even 59 *per mille* have been recorded. Of the total number, one was a stillbirth and five premature, and the cause of these was infection with measles on the part of the mothers. . . . The male births were seventeen in excess of the female, and numbered 48, the female only 31.

"The deaths numbered 489, and the death-rate reached the enormous figure of 246·5 *per mille*. The death-rate has always been high here, and in former years the lowest rate I have registered has been 37 *per mille* and the highest 54. A death-rate of 73 *per mille* was recorded in the year 1901, when Dr. Hall visited this place in connection with an epidemic of choleraic diarrhœa [? ptomaine poisoning], which had prevailed for some time before his arrival. The explanation of the high death-rate this year is, of course, the epidemic of measles which, allowed to run through the people for the first time, during my absence on leave, swept them off literally in hundreds. The female deaths were sixty-five in excess of the male, and numbered 277, as against 212.

"I have shown a return* of the age-period at which death occurred, and from it it will be noticed that death has been most busy among young children and adults from twenty to twenty-five years of age. From five to twenty years the incidence has not been so heavy, and over forty-five years it has been comparatively slight.

"The causes of deaths are shown on another return, and among the chief, measles leads the way with its 326 victims. The disease, as I have already reported, was in most cases complicated with ileo-colitis, most likely of bacillary origin ; in some with tubercular disease of the lungs ; in a few with yaws, pneumonia, pregnancy, childbirth, miscarriage. Phthisis pulmonalis follows next with twenty-six deaths. Since the measles epidemic its prevalence has been wide-spread. Always regrettably common here, it has become more so of late. Acute broncho-pneumonia carried off twenty children—in most cases the disease might be put down as an after-result of measles. I have put down twenty-three cases to ileo-colitis—following measles in all cases, but where complete recovery from the latter disease had taken place. . . .

* Not printed with the original.

"Measles were introduced on January the 29th when I was absent, and on my return on March the 26th, 700 cases were reported to me as existing. The epidemic continued throughout April and May, and finally died out in June. It caused 50 deaths in March, 198 in April, 74 in May, and 4 in June. It was accompanied with or followed by acute ileo-colitis—a very fatal complication in most cases.

"Influenza appeared about the close of April, and continued its course through May. It was unfortunate that it should have followed so close on the heels of the last-mentioned epidemic, as it must have undoubtedly proved fatal to many measles convalescents.

"Mumps were also prevalent in May, and the swellings in many cases disappeared very slowly; it was not, however, very widespread."

The Report adds that owing to the epidemic of measles the progress of vaccination in the island was much interfered with; and that, with regard to the future health of the people, an increase of tubercular disease, only to be expected, however, since the introduction of measles, should be noted. This, Dr. MacDonald hoped, might perchance only weed out the undesirables and leave those best fitted to survive to propagate the race.

The following table represents the vital statistics of the community for the same year:

TOTAL POPULATION.*

Estimated at the mid-year		1973
Actual, by census on November the 27th		1983

Births.

Males		48
Females		31
Total		79
Rate <i>per mille</i>		39·8
Stillbirth		1
Premature		5
Illegitimate		7
Births of mixed parentage		15

* Including about a dozen Europeans.

<i>Deaths.</i>							
Males	.	.	.	.	.	.	212
Females	.	.	.	.	.	.	277
Total	.	.	.	.	.	.	489
Rate <i>per mille</i>	.	.	.	.	.	.	246·5

<i>Marriages.</i>							
Total number	.	.	.	.	.	.	31
Rate <i>per mille</i>	.	.	.	.	.	.	15·6

The marriage-rate also was somewhat higher than has been customary as a consequence of the measles epidemic, some of the survivors whom it bereaved having lost but little time in contracting new alliances.

PRIMARY STREPTOCOCCAL PERITONITIS IN A CHILD, WITH SEPTICÆMIA, ENDING IN RECOVERY.

BY ALEX. MACLENNAN, M.B., C.M.,

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J. W. MCNEE, M.B., CH.B.,

McCunn Scholar in Pathology, Glasgow University; Extra Honorary Physician, Royal Hospital for Sick Children, Glasgow.

NUMEROUS cases of pneumococcal peritonitis in children have been reported from time to time. From the ætiological aspect the interest in this case lies in the proof of the infecting organism being a definite streptococcus and not the pneumococcus of Fraenkel. A recovery from a primary streptococcal peritonitis, notwithstanding the presence of an extensive septicæmia, makes the case worthy of record. The report of the case is as follows: A girl, aged 6½ years, was admitted to the Western Infirmary on April the 29th, 1912, with an "acute abdomen." Four weeks previously the child had suffered from measles; a slight cough had since persisted. Two days before admission vomiting with diarrhœa set in and was accompanied by abdominal pain. On admission the temperature was 100·4° F., and the pulse was 116. There was nothing palpable over the appendix region. The child was operated upon at once. The abdomen was opened through the usual right-sided gridiron incision over the appendix region. A general peritonitis was noted with the presence of a considerable quantity of turbid, purulent,

odourless fluid free in the peritoneum. The appendix was inflamed superficially in common with the rest of the abdominal contents, but was otherwise normal. A rapid examination of the pelvic organs, intestines, stomach and the abdomen generally failed to reveal any cause for the peritonitis. The appendix was stitched into the wound, which was closed round it; after opening, a thin rubber catheter was passed through into the cæcum. Douglas's pouch was opened *per vaginam* and a tube inserted into the peritoneum. Pus from the abdominal wound was placed in a sterile tube, and forty-eight hours afterwards the blood was examined. The result of the examination will be referred to later. The child remained in a critical condition for a fortnight, the temperature ranging from 100° to 102° F., and the pulse from 120 to 140. After this convalescence was gradual, though delayed by suppuration at the site of a saline subdermic infusion. The child was dismissed on July the 10th; she returned for examination on September the 22nd and was found apparently in perfect health.

Primary pneumococcal peritonitis in children runs a comparatively benign course, though the same cannot be said about streptococcal infections.

The origin of a primary peritonitis is obscure, and various theories exist to account for the entrance of the infective agent. The infection may come from the blood-stream. That such a route is, to say the least, possible must be conceded, though Spencer does not consider the blood or lymph route of infection as possible. In this connection it must be admitted that the peritoneum resists direct passage through it of pus outside of it; still, if organisms are circulating in the blood or exist in the lymphatics, it does not seem a great stretch of the imagination to conceive of some finding themselves inside of the peritoneal cavity. For the pneumococcus to get from the lung into the peritoneum a blood infection is almost necessary. Fishbein holds that the infective organism is brought by the blood- or lymph-stream to the peritoneum. He further points out that the relationship between pneumonia and primary peritonitis is established, and also that such peritonitis is more common than generally supposed. The point of entrance of the pneumococcus into the blood lies at least outside of the abdomen as no lesion is found in the intestines, and in any case the pneumococcus does not occur normally in the bowel. In this respect it differs from the streptococcus, which has a habitat in the bowel. The entrance of organisms through the lymph-stream must be accepted as possible, though there is the same difficulty in demon-

strating the route as there is with the blood-stream. It has been pointed out by Armstrong, in referring to his cases, that in every instance of primary peritonitis the subject was a female. Again, the possibility of infection passing through the tubes without involving them must be admitted. Such a possibility must be allowed in this instance. It is a well-known fact that minute abscesses may exist in the wall of the appendix; such might suddenly empty themselves into the peritoneum, leaving little or no trace of the origin of the infection. In this case the freedom of the exudate from odour and the purity of the culture almost preclude the intestine as the origin of the infection. The similarity of this case to the pneumococcal type in onset, operation findings, and subsequent course leads to the inference that their origins are similar. In so many infective lesions it is found that organisms are in circulation in the blood, and, indeed, probably such a condition exists without giving rise to any special symptoms or signs in many unrecognised cases. The blood is probably the usual route for the spread of infections. It therefore seems to be the most feasible explanation to accept the view that in this primary streptococcal peritonitis a blood infection was the source from which the organism invaded the peritoneum. The streptococcus must have been in the circulation as a comparatively minor and symptomless infection; it would have remained so had not the peritoneum become so extensively invaded. From the peritoneum the blood was paid back its loan of streptococci with interest, so becoming flooded with the organism.

BACTERIOLOGICAL FINDINGS.

In films made from the pus taken at the time of operation an organism, morphologically a streptococcus growing in stout chains, was found abundantly. It was apparently the only organism present, and grew in pure culture in agar. The same organism was isolated from the blood about forty-eight hours after the operation, less than 2 c.c. of blood being withdrawn from the basilic vein into 20 c.c. of bouillon. The organism obtained from both sources grew fairly readily on ordinary agar, the colonies being at first separate, small, and translucent. In subcultures growth was much more vigorous, and the strain has been kept going now for about six months. Films made from the cultures showed a streptococcus growing in short chains. No capsule formation was apparent in the films, but in view of the comparative frequency of primary pneumococcal peritonitis in children, further tests were carried out

to complete the identification of the organism. From these tests, which are given briefly below, there is no doubt that the causal organism in this case was a true streptococcus.

(1) The organism grew fairly freely from the beginning on ordinary agar, and on gelatin at room temperature without liquefying the medium.

(2) Even after producing a septicæmia in a mouse no capsule-formation could be demonstrated in the organism present in the heart-blood. Richard Muir's method of staining pneumococcus capsules was used in these attempts.

(3) In bouillon a fine flocculent deposit of growth fell to the bottom of the tube.

(4) Various sugar tests were employed. The organism fermented lactose and saccharose, but not inulin. The inulin was used in His's serum water medium and a stock pneumococcus fermented it readily. Salicin was not tried. Milk was made acid but not coagulated. In its fermentative properties the organism thus corresponded with those given for streptococci by Andrewes and Horder.

(5) The organism, finally, was tested for its power to produce hæmolysis. Only some strains of streptococci produce a hæmolysin, but pneumococci never do so at all. The test was made both by the method described by Schottmüller on a blood-agar plate, and by the following more reliable method recently described by McLeod, but used as well by previous authors. The organism was cultivated in bouillon containing 15 to 20 per cent. of fresh horse-serum, previously heated at 57° C. After incubation for eighteen hours at 37° C. the hæmolytic power of the bouillon culture was tested on a 5 per cent. suspension of defibrinated, unwashed rabbit's blood in 85 per cent. NaCl. Complete lysis of the corpuscles of 1 c.c. of this suspension was produced by 0.02 c.c. of the culture, after incubation for two hours at 37° C. A filtrate of the culture, obtained through a Maassen filter, was also markedly hæmolytic. This test establishes completely the identity of the causal organism as a streptococcus.

OPERATIVE MEASURES.

(1) *Drainage by Douglas's pouch.*—The advantage of drainage by this route in females is obvious. Even in children there is no great difficulty in entering the peritoneum through the posterior vaginal fornix. In males similar advantages are available by perforation of the rectum, but where this manœuvre has been carried out rectal

administration of saline is not possible. Where, however, it is considered necessary to drain Douglas's pouch in males, perforation of the rectum is preferable to the placing of a tube through a supra-pubic opening, which, in a certain number of cases, leads to a faecal fistula and in all to intra-peritoneal adhesions. The danger of the drainage-tube lies principally in the holes cut in the sides. Those should be elongated, not round. The bowel tends to herniate into the tube through the holes, and a plug of gut-wall is apt to be punched out by the sharp edge of the rubber tube. In opening Douglas's pouch in the female, unless the operator be very expert, it is advisable to place the patient in the lithotomy position at the end of the table. This position allows the forceps handles to be well depressed, and avoids the points being directed against and possibly penetrating the rectum. The cervix should be grasped and steadied by a pair of single-hook tenaculum forceps, while the mucous membrane of the posterior fornix is snipped by scissors. A pair of blunt forceps may then be readily jerked through the remaining partition into the peritoneum. The forceps, preferably slightly curved, must be directed upwards and forwards, keeping close to the uterus, so as to avoid injury of the rectum. Having entered the pouch of Douglas the blades of the forceps are separated and a stout tube is inserted. To avoid damage the inner end of the tube is fringed by snipping all round with scissors for half an inch upwards. Wherever a rubber tube of any degree of rigidity is placed in contact with soft tissues such a plan should be adopted, thereby minimising the risk of the edge of the tube ulcerating into a vessel or a viscus. To simply plunge a pair of forceps through the vaginal vault is not good practice, for the instrument, before perforating the mucous membrane, displaces the uterus, and the points may penetrate the parametrium or rectum, or, by slipping round the cervix, the bladder. If the rectum be injured no great harm results, but such an accident renders subsequent rectal infusion useless. After the tube has been placed *in situ* the rectum should be explored by the finger to ascertain that the tube has not been slipped into it.

(2) *Drainage through the rectum* is a more difficult procedure, and unless the surgeon feels confident that the bladder is well out of danger he had better desist. A catheter should be passed to empty the bladder and to indicate the upper limit of the organ. The finger in the rectum locates the point of the instrument in the bladder, then the blunt-pointed forceps is slipped past the finger and perforates the bowel immediately above the catheter, and so enters

Douglas's pouch. Fortunately, where pus is distending the pouch there is less chance of damaging neighbouring organs, but in recent cases before infiltration or thickening has occurred, and where there is no great tension, such an accident is quite possible.

Whether the opening be made through the vagina or rectum the tube should only penetrate a very short distance into the peritoneum. The free end is stitched to the skin and cut short. The tube should be allowed to remain in position for thirty-six hours. Thereafter, if on examination a further collection of fluid be found, the old opening is readily re-established. The adoption of the Fowler position then becomes of the greatest benefit, as it necessarily encourages rapid and complete emptying of the free collection in the peritoneum.

(3) *Appendicostomy*.—Administration of saline *per rectum* should, of course, be carried out, but such a plan gives nothing like the results of instillation of saline into the cæcum through the appendix. In children it is very difficult to get an efficient infusion *per rectum*.

The technique of appendicostomy need not be discussed, for an ideal operation on account of the exigencies of the case cannot be carried out, but as a temporary measure the more simple, and therefore, the more rapidly performed operation is the best. Its one serious disadvantage is the leaving of a fixed pillar in the abdomen, round which intestine may subsequently become strangled. If time cannot be taken at the operation to prevent the formation of such a trap inside the abdomen, the appendix stump, if the case recover, should be removed before the patient passes out of the surgeon's charge. The amount of fluid thrown into the colon should be a maximum; excess will be quickly voided *per anum*. The infusion may be made more or less nutrient, according to the requirements of the case. The colon may be washed out by this means by syphonage through the tube.

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A CASE OF TUBERCULAR DISEASE OF THE EAR.

By GEORGE N. BIGGS, M.B.,

Consulting Aural Surgeon, Evelina Hospital for Sick Children; Surgeon in Charge of the Ear and Throat Department, Royal Waterloo Hospital for Women and Children; Assistant Surgeon, Ear and Throat Department, Dreadnought Hospital.

A GIRL, aged 4 years, was admitted to hospital with a large abscess over the right mastoid process. Facial paralysis was present upon the right side, but there were no other symptoms present.

On examination the right middle ear was seen to be full of granulation-tissue.

A radical mastoid operation was immediately carried out, when the mastoid process was found to be extensively destroyed, the facial nerve being exposed. The remains of the malleus were found, but there was no trace of the incus. No necrosis of the external semicircular canal was present, neither was there any fistula leading through the inner wall of the middle ear into the internal ear.

The mother could not give a satisfactory history of the length of time during which the discharge had been present, but after careful questioning I think that there is no doubt that it had existed for about eight months.

The child was discharged from the hospital and the cavity was almost healed in about two and half months' time.

She did not attend the hospital for some months, but one day she was brought up again with the history that the discharge had been more profuse for about four weeks previously to being brought to the hospital, and that the day before a piece of bone had been syringed out of the ear. On examination this proved to be a sequestrum of about half of the cochlea. The child had had no pain or vertigo, appeared quite well, and no nystagmus was present. She was admitted into the hospital in order to be watched. As however, no symptoms developed, she was discharged in about six weeks, by which time the cavity was quite dry. No bacteriological examination was carried out, as the conditions found at the time of operation left no doubt as to the correct diagnosis. Facial paralysis in children associated with aural discharge and unaccompanied by any symptoms of labyrinthine or intra-cranial disease is pathognomonic of tuberculosis.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, April the 25th, 1913.

Mr. A. H. TUBBY, *President, in the Chair.*

Two Cases of Hereditary Syphilis treated by Intra-venous Injections of Salvarsan and Neo-salvarsan.—Dr. J. L. BUNCH.—

CASE 1.—The child is now aged 2 years, and was shown at this Section some eighteen months ago. Shortly after birth the child developed virulent symptoms of hereditary syphilis, and, when eight weeks old, was given by me an intra-venous injection of 0.03 grm. salvarsan ("606"). A fortnight after the injection all the syphilitic symptoms had disappeared, and the child had increased 4 lb. in weight and has remained free from symptoms up to now.

CASE 2.—The child is now aged 3 months. When aged about 5 weeks he began to show symptoms of hereditary syphilis—rash, muco-purulent discharge from the nose, condylomata, etc. He was admitted to hospital on April the 11th, 1913, when a skiagram taken of the right wrist showed marked disease of the lower end of the diaphysis of the radius, with cancellation and rarefaction of the bone, and periostitis spreading well up the shaft and also involving the ulna. The Wassermann reaction was strongly positive. At 2 p.m. on April the 12th, 0.04 grm. neo-salvarsan was injected into the left external jugular. At 10 p.m. on the same day the temperature rose to 103° F., but fell again next day almost to normal. The pulse rose from 120 to 136 at night. The injection of neo-salvarsan was repeated on April the 19th, and the symptoms have all greatly diminished, with the exception of the bone changes. The mother still suckles the child at the hospital three times a day.

Tuberculosis of Kidney.—Dr. J. PORTER PARKINSON.—A boy, aged 8 years, with a healthy family history, was admitted into a hospital for children two years ago, shortly after an attack of scarlet fever. He was sounded for stone in the bladder, and then the right kidney was explored from behind, but nothing abnormal detected. The urine, which had contained pus, cleared up, and he was discharged.

On January the 20th, 1913, he was admitted to hospital for pain in the right side of the abdomen of two weeks' duration and wasting. He is thin but not emaciated, the right rectus is at times very rigid, but occasionally a hard tumour may be felt in the region of the right kidney, extending two fingers' breadths below the costal margin; it is sometimes tender. The urine is normal in amount, alkaline, contains a variable amount of pus, and about 0.1 per cent. albumin; no blood. Staphylococci and tubercle bacilli are found in it. X-ray report: Increased density in renal region; several shadows scattered over right loin, suggesting calcareous masses in an enlarged kidney or calcareous mesenteric gland. Two very dense shadows at lower part of right ureter, suggesting calculi or calcareous matter. The left kidney presented nothing abnormal, and there are no bladder symptoms.

The heart and lungs are normal. Temperature as a rule normal, but with occasional rises to 102° or 103° F., apparently due to retention of pus in the pelvis.

The boy's condition has improved in hospital, and the local tenderness and rigidity have disappeared, so it is easy to palpate the diseased kidney. It is proposed to remove the diseased kidney shortly.

A Successful Case of Cerebral Decompression for Convulsions, Jacksonian in Type.—Mr. R. H. ANGLIN WHITELOCKE.—A boy, aged 4 years, was admitted at 9.15 p.m. into the Radcliffe Infirmary, Oxford, on February the 2nd of this year, with the history that he had been in perfect health until that morning, when he complained of slight earache. He did not go to school, but in the early afternoon went for a walk. At 5.30 he fell asleep, and at 7.30 awoke feeling sick, complained of headache and soon vomited. Soon after he vomited his face began to twitch, and he began to have convulsions which were confined to the right side of his body. He was at the time quite conscious but spoke indistinctly. As the spasms continued his mother put him into a warm bath and sent for medical assistance. As the fits began to increase in duration and severity the family physician sent him to hospital. The spasms began in the face and rapidly spread to the thumb, wrist, forearm and arm, and then downwards until the lower limb had been completely involved. The child was then hardly conscious. Between the seizures there was but a momentary period of muscular relaxation, and fit followed upon fit with marked regularity. There was no incontinence of urine, and no biting of the tongue. As the condition was steadily becoming worse, and as the fits were entirely localised to the one side, I determined to perform an exploratory operation with the double object either of removing if possible some localised focus of cortical irritation, or of diminishing intra-cranial pressure in the event of there being some more deeply situated cause, such as a neoplasm or collection of fluid.

As the symptoms were so clearly localised and defined the situation chosen for the opening was the neighbourhood of the Rolandic area. As soon as the surgical preparations had been made, and with chloroform anæsthesia, a semicircular flap of skin and pericranium with its base downwards was turned downwards over the side of the head; the bone on exposure presented nothing unusual, though the percussion note seemed a little duller in the region of the parietal eminence. With the aid of a 1½-in. circular trephine a disc was removed, whereupon the dura mater bulged into the space owing to the presence of increased intra-cranial pressure. A flap of dura mater was made and drawn aside. The blood-vessels on the surface of the exposed convolutions were somewhat engorged, but to all intents and purposes the exposed portion of the brain was healthy. A fine exploring cannula was then passed into the cavity of the left ventricle and withdrew a few drops of clear cerebro-spinal fluid. The presence of a deeply placed neoplasm or perhaps a tuberculous focus being suspected, the bony disc was *not* replaced, whilst the dura mater was only partially sutured. The skin flap was restored and held in position by interrupted silkworm sutures to allow of leakage, for no other means of drainage was considered advisable. The fits ceased from the moment the dura mater was incised. The wound healed perfectly, and the child made a complete and uneventful recovery. He is now in perfect health and spirits. The interesting features for consideration are:

- (1) The still unascertained cause of illness, no lesion having been found.

(2) The one-sided limitations of the spasms, with at first no loss of consciousness, no incontinence of urine, and no biting of the tongue.

(3) The complete cessation of the fits as soon as the intra-cranial pressure was relieved by operation.

(4) The complete and rapid restoration to health after such a sudden and severe nerve-storm.

The opening in the skull may still be felt, and through it the brain pulsating. A rude cap is worn more as a placebo than a protection. It is advisable not to close the bony aperture for the present, lest there should be a neoplasm: it can always be closed later, if required, by bone-grafting.

Enlargement of the Thyroid Gland in a Family of Five Children, Four Boys and a Girl.—Mr. R. H. ANGLIN WHITELOCKE. — The respective ages are: Hurrell 5, George 7, Gwendolen 9, Sidney 10½, and Henry 12 years. The four elder children were born in Surrey, where they lived on high ground, the youngest at Eynsham, near Oxford, a low-lying village near to the Thames. The parents are healthy.

George is said to have been born with an "enlargement in his throat," so that for the first four weeks of his existence his life was despaired of, and the monthly nurse almost daily informed his mother that he could not live. For some months later he was liable on the least excitement to suffer from "fits of suffocation." This went on till he "cut his eye-teeth." Attention was first drawn to the condition of Hurrell and Gwendolen by the school doctor eighteen months ago. Sidney's neck began to enlarge when he was aged ten years; Henry's, the eldest, only became apparent during the last six months, and not before he was approaching the age of twelve years. The eldest boy is said to have been very delicate until he had an attack of typhoid fever three years ago; since then he has grown considerably in size and strength. With the exception of an attack of scarlet fever from which the girl suffered recently, they have all been remarkably free from illness.

During the last eighteen months there has been very little change excepting that George's neck has grown a little larger, and Gwendolen's become less. The eldest boy has only lately come under treatment, for his enlargement has been very gradual and somewhat slow, and is of only recent development.

The pathological condition is probably one of simple parenchymatous enlargement. The glands show equable and general increase, both lobes as well as the isthmus being involved.

Treatment has consisted in an increased weekly pecuniary allowance, the administration of cod-liver oil, iodine preparations, and occasionally iron. The home surroundings have been improved as regards warming, increased light, and general hygiene. This *régime*, steadily enforced for over a year, seems to have arrested the glandular increase in most cases. The congenital case still remains the largest, as may be readily seen by reference to the photograph.

Amongst the interesting points are to be noted:

(1) The existence of the disease in *all* the children of the family, the parents being wholly exempt.

(2) The presence of at least one congenital case.

(3) The enlargement of the thyroids in all the children, whether they lived on bracing and high ground or in the relaxing atmosphere of a low-lying and somewhat damp watershed.

(4) The excellent general health and spirits of the children, in spite of the poor pecuniary circumstances of their parents.

Operative Myxœdema—Cachexia Strumipriva.—Dr. H. MORLEY FLETCHER showed a girl, aged 13 years. In October, 1907, at the age of 7 years, she was admitted to hospital with a small, elastic, freely movable swelling, the size of a marble, medianly situated in the neck at the level of the thyroid cartilage, and apparently attached to the thyroid gland. The swelling was first noticed two years previously, and had been gradually increasing in size. It was removed without difficulty, and was found microscopically to consist of thyroid gland tissue. She was discharged, but was readmitted on November the 22nd, in a state of cachexia strumipriva. Three weeks after the operation she became drowsy, and swelling of the face and hands with puffiness under the eyes was observed. On admission the temperature was subnormal; the urine contained no albumin. She was treated with thyroid extract, and discharged on December the 11th in a considerably improved condition. Treatment was continued intermittently in the Casualty Department until December, 1908, when she came to the Children's Department. She had taken no medicine for at least six weeks, and presented the typical appearance of myxœdema. She was very lethargic, the skin was dry and rough, the hair over the temples very thin. The urine was normal. Pulse 66 per minute; temperature 98° F. Since then she has been taking thyroid extract continuously, but in spite of this has not progressed satisfactorily. The mental condition is good. At the age of 11 years she was in Standard V, but was put back to Standard IV. Bodily growth is fairly normal. She has never menstruated. She still presents a puffy, pallid appearance, suggestive of myxœdema or chronic nephritis, though the urine has been always found to be normal. At times she becomes lethargic, though, as a rule, she is bright and active minded. The addition of supra-renal extract to the thyroid extract has made no apparent difference.

Distal Myopathy.—Dr. E. A. COCKAYNE.—Boy, aged 6 years. The parents are healthy. There is no history of any similar condition in the family. The patient has two brothers, aged 14 and 8 years, and one sister, aged 10 years, all well-grown and healthy. The mother states that the patient has always been undersized, and has suffered from birth with incontinence of urine and fæces. At three years of age she noticed that he had considerable wasting of the muscles below the knee, and that his buttocks were small. She does not think the wasting has progressed much since it was first noticed. The boy seems to fall over rather easily.

The boy is very small for his age, 37½ in. in height, but is of normal intelligence. The face, arm and trunk muscles appear natural. There is marked symmetrical wasting of the glutei and of the leg muscles below the knees. The thigh muscles are well developed. There is some deformity of the toes, but all movements can be carried out naturally. There is usually some cyanosis of the legs below the knees. No fibrillation has been observed. Sensation to touch, pain, heat and cold over both arms and legs is natural and muscular sense is preserved. The knee-jerks are brisk, but neither ankle-jerks nor plantar responses could be obtained. There is no change in the electrical reactions. The X rays show a narrow pelvis, and changes in the epiphyses of the long bones characteristic of rickets. The boy has no alteration of gait or ataxia, and complains of no pain, no feeling of cold, or any other subjective symptoms. But for the implication of the glutei muscles the distribution of the wasting resembles that seen in an early case of peroneal atrophy of the Charcot-Marie-Tooth type.

Congenital Absence of Abdominal Muscles and other Defects.—

Dr. BELLINGHAM SMITH.—Male, aged 2 months, the first child of healthy parents, brought to hospital because “there is something wrong with his stomach.” On examination the abdomen is flattened from before backwards, while there is a distinct bulge in either loin, which is markedly accentuated whenever the infant screams or strains. Centrally there is a wide flattened median band, which represents the rectus sheath, stretching from the ensiform to the pubis. If the abdomen is palpated on either side of this central band the coils of intestine can be readily felt, apparently only covered by skin, fascia and peritoneum. The central sheath itself can be easily picked up between finger and thumb, and suggests to the feel merely a band of fibrous tissue without any intervening muscular tissue. The whole of the abdominal wall fails to react to electrical stimulation. The infant also presents other congenital defects. The right leg is kept slightly flexed at the hip- and knee-joints, and is said to be moved but very little. There is a moderate degree of genu valgum and talipes calcaneo-valgus present on both sides; the latter condition is more marked on the right side than on the left. Over the præcordial area there is a faint systolic murmur, which is loudest in the region of the impulse. In all other respects the infant appears to be healthy.

Sublingual Tumour. Mr. MAYNARD HEATH showed two cases in a girl aged 3 and a boy aged 10 years respectively.

Pathological Specimen : Diphtheria of the Œsophagus.—Dr. J. D. ROLLESTON.—Boy, aged 6 years. Admitted to hospital on March the 22nd, on fifth day of disease. Death occurred within one hour of admission.

Condition on admission : Profound toxæmia, pulse imperceptible; temperature 99.4° F. Palatal and faucial œdema, membrane on tonsils, pillars and palate, considerable neck swelling, oral fœtor and profuse nasal discharge. Slight stridor, croupy cough and recession.

Specimen shows normal condition of upper part of œsophagus. The lower $1\frac{3}{4}$ in. show longitudinal areas of congestion and submucous hæmorrhages. A small piece of membrane is visible at the upper part of this congested area, and there are larger patches of membrane present at the cardiac end. Membrane was also present in the naso-pharynx, larynx and trachea. Stomach normal. Pure cultures of Klebs-Loeffler bacilli were obtained from lesions in throat and œsophagus.

The following papers were read :

(1) **Successful Operation for Strangulated Hernia in an Infant 18 days old.**—Mr. R. H. ANGLIN WHITELOCKE.

(2) **Case Simulating Meningitis in which the Symptoms were caused by the Escape of Thread-worms into the Peritoneal Cavity through a Perforated Appendix.**—Mr. R. H. ANGLIN WHITELOCKE.

EPIDEMIOLOGICAL SECTION.

January the 24th, 1913.

The Behaviour of Diphtheria in Schools.—Dr. J. A. H. BRINCKER quoted Shirley Murphy's and Hamer's classical researches on the influence of school life, which increases the incidence of disease between the ages

of three and fifteen, and which decreases the former preference of the bacillus for the female sex, for adults, and for rural rather than urban communities. The existence of carriers was suspected by these authors as far back as 1896. C. J. Thomas divided germ-carriers as follows: 80 per cent. were mild and unrecognised cases, 12 per cent. were healthy contacts from infected houses, 6 per cent. were cases of intermittent or recrudescant infection after discharge from hospital, and 2 per cent. were perfectly healthy. He found the greatest incidence of the disease between the ages of three and five, but the greatest prevalence of carriers in children between five and eight. There has been little diphtheria in London of late, but in the high-lying south-eastern portion of the metropolis, where the housing is new and good, it has been endemic for some years. The epidemics in several schools are then described. In school A a case occurred in the Infant Department in April, 1911, followed by 16 other notifications and 6 deaths. Between August and November 28 other cases occurred in the ward in which the school was situated; 12 of these were school-children; 6 of them were in the infant department, and 3 of them ended fatally. The epidemic continued until July, 1912, when it ended with the commencement of the summer holiday; altogether there were 60 cases with 8 deaths. Two chronic carriers recently discharged from hospital were discovered. In school C between November the 28th and December the 21st, 1911, 20 cases occurred in the mixed department owing to a child ill with the disease attending school for two days. Two carriers were discovered, one of whom had an unhealthy throat on December the 5th and in whom virulent bacilli were discovered on December the 19th. Non-virulent bacilli were isolated from December till March, but he was allowed to return to school from December onwards, and no further spread of the disease was noted. In school D a child was readmitted who had been away from January the 20th to February the 19th with a cold. On February the 20th he was excluded by the school doctor, but re-admitted on a negative bacteriological certificate. As 5 notified cases and 16 bacteriological ones occurred, the child who had been away with a cold was re-examined and found to be harbouring the Klebs-Loeffler bacillus. The intermittency of the power of carrying infection is well shown by a boy, the culture of whose swab resulted in an alternate growth of the Loeffler and Hoffmann bacillus for seven months. In school E in June there were 6 cases in the infant department. The second case was one of nasal diphtheria which had had rhinorrhœa for a month previous to notification. Another case had occurred in the same house about fourteen days before, in a child, a niece of the school teacher. This child had been away from school for some time with rheumatism. The school teacher was examined and was found to have Klebs-Loeffler bacilli in both throat and nose, where they persisted for sixty days. Either she or the second case was the cause of the outbreak.

A most interesting epidemic was reported from a residential school containing 60 girls. It was closely connected with two carrier cases, R. C— and E. M—.

R. C— first had scarlet fever in December, 1910, went to a fever hospital in March, returned and infected twenty of her comrades, and was herself re-notified and sent to hospital, where she remained till May the 27th. On July the 27th, 1911, a girl in same dormitory as R. C— developed diphtheria, where another clinical case occurred next day. Twenty-five were then found to be harbouring Klebs-Loeffler bacilli and four Hoffmann's bacilli. All except R. C— and E. M— cleared up quickly.

R. C— returned from hospital on September the 2nd; Klebs-Loeffler bacilli were found on December the 3rd, she was readmitted to hospital and again discharged on November the 2nd. Two negative results from swabbings were then obtained, but as the third, fourth and sixth were positive, the child was readmitted to hospital on November the 19th, where she remained till April the 4th, 1912. Immediately on return from hospital typical Klebs-Loeffler bacilli were found by the bacteriologists of the Lister Institute, but of no great virulence to animals, and from the nose or throat bacilli were isolated up till May the 31st, On June the 2nd a case was noticed in another child, and consequently R. C— was again sent to hospital on June the 3rd, 1912. In the meantime, E. M—, who went to hospital on August the 18th, 1911, was discharged on November the 8th. On November the 16th, 17th and 18th Klebs-Loeffler bacilli were again isolated from her throat, perhaps contracted from R. C—. She was again sent to hospital till January the 15th, 1912. In June, 1912, she was found to be harbouring bacilli and was again sent to hospital. In hospital no bacilli were found till June the 28th, when typical, but non-virulent bacilli were found in R. C— and E. M—. A similar report was returned on August the 13th. E. M— then became negative and has remained so.

R. C— still continues to give positive results; she has given rise to one epidemic of scarlet fever, two of diphtheria, and has carried bacilli for nineteen months.

The paper ends with the following conclusions:

(1) The carrier problem is of the greatest importance in the control of diphtheria.

(2) A carrier may have never suffered from any disease of the throat and the mucous membranes may appear normal.

(3) The bacilli may be only intermittently recoverable; in such cases they can often be demonstrated in the deep crypts of the tonsil, in the antrum of Highmore, and in the frontal and ethmoidal sinuses.

The following factors influence the control over diphtheria in schools:

(a) Inability to examine absentees before return to school or contacts outside school age.

(b) Single bacteriological examinations or examination of the throat or nose alone.

(c) Absence of control in play hours, Sunday schools, etc.

(d) Discharge of cases in an infectious condition from a fever hospital, or the recurrence of the disease on returning home.

(e) The predominance of purely nasal carriers.

The means taken to render the carrier harmless are disinfectants, serum, vaccines, and removal of enlarged tonsils and adenoids, but all these measures are only partially successful.

The spraying of the throat and nose three times a day by a twenty-four hours' broth culture of *Staphylococcus aureus* should be tried.

Philadelphia Pediatric Society.

March the 18th, 1913, THEODORE LE BOUTILLIER, M.D., President.

SYMPOSIUM UPON THE NERVOUS DISORDERS OF CHILDHOOD.

The Neuroses of Childhood.—Dr. CHARLES W. BURR read this paper. Everyone is agreed that there exists a particular type of nervous child, characterised by pathological irritability, weakness in withstanding stress, and lack of ability to develop power of inhibition—self-control. There is present a decided lack of will to make effort. The main cause of the condition is heredity. It is evident that the condition is not dependent upon ill-health, nor does good physical health prevent its occurring. To prevent the propagation of such children in the future, Dr. Burr advises a correct education, the teaching of emotional control, not making everything in life easy. Children must be taught self-control (inhibition), obedience, duty, and the love for work.

Dr. J. P. CROZER GRIFFITH: A neurosis is a functional disturbance of the nervous system not dependent upon any structural lesion. This definition gives the neuroses a very wide range. Many doubtless depend upon actual organic change not known to us. Many others are strictly functional, though sometimes the result of organic change outside of the nervous system. Dr. Burr is undoubtedly correct in saying that at least many of the neuroses begin in infancy; there must be some reason why some children develop them and others do not. The intensity of the exciting cause may possibly be greater in one case than in another. I do not feel prepared to believe that all neuroses must depend upon a congenital tendency, and are impressed upon the child for all of its life. Many neuroses are manifested by a spasmodic condition of the body. Among these may be mentioned convulsions, some forms of chorea, tetany, head-nodding, head-banging, laryngismus stridulus. Others have no spasmodic condition, as many forms of headache and night-terrors. Other neuroses might be called visceral, occupying an interesting position among the diseases of early life. Enuresis is a typical common one; closely allied to it is the nervous incontinence of fæces. Anorexia nervosa may exhibit itself in infancy as well as in later life. In a child of fourteen months gavage was necessary for months before the child could be induced to take food. Many forms of vomiting in infancy and early childhood are distinctly neuroses. Recurrent vomiting is probably a neurosis depending upon a toxic state of the system. Here, too, come those curious cases of children who can vomit practically at will, and infants in whom even smiling may produce vomiting. The psychoses and neuroses are very closely related. Some of these pædiatrists would call manifestations of hysteria, which is not uncommon at this time of life. These conditions are made worse by free conversation on the part of the parents regarding the matter in the presence of the child. The symptoms should be described to the physician in the absence of the child, and as little mention as possible be made of them at any time. In the matter of the importance and influence of school life I am somewhat at variance with the speaker. Many children are mentally overdriven, and confinement in school has a bad effect.

Choreas of Childhood.—Dr. T. H. WEISENBURG.—Choreas are now divided into infectious and hysterical. It is advisable to abandon the old terms—minor chorea, Sydenham's chorea and St. Vitus' dance. The tendency is to regard chorea as a definite organic disease. Careful investigations have shown that choreas are nearly always preceded by some form of infection, such as an ordinary cold, *grippe*, rheumatism, etc. Not all cases of chorea are preceded by rheumatism, and neither is every case of rheumatism succeeded by chorea, but there is no doubt that chorea is frequently associated with rheumatism. The bacteriological basis has not been definitely established. The present ideas of the pathogenesis are that there are present in the body depths of infection, which as the result of some acute endogenous cause become generally manifest throughout the body, and chorea results. These causes may be fright, anaemia, general nervousness, etc. In the more recent examinations there has been a uniformity of findings, chiefly diffuse areas of encephalitis of a toxic or infectious nature, and sometimes accompanied by meningitis. More specifically areas of inflammation have been found either in the lenticular nucleus or the cerebellum or the tracts coming from it. The most recent views as to the direct mechanism of chorea are that we have to do with spontaneous movements, associated movements, disturbance of co-ordination, and hypotonia. We should expect, therefore, disturbance of the motor and cerebellar apparatus. If, as a consequence, there should be an infectious toxic involvement of the cerebellum and the fibres coming from it, chiefly those of the superior cerebellar peduncle, then the symptoms above enumerated could result. The differential diagnosis between infectious and hysterical chorea should not be difficult, as in the latter there are no evidences of infection, no spontaneous and associated movements in other parts of the body, and no hypotonia. The best treatment is rest.

Dr. FILLER referred to a case in a child of 2½ years, one of the youngest on record. This child had tonsillitis, cervical adenitis with suppuration and chorea, following the paroxysms of fear into which the child was thrown whenever its neck was dressed. This chorea lasted eighteen months. Although the tonsillitis may have been the predisposing cause here, undoubtedly fright and shock were the exciting causes.

Dr. H. K. HILL referred to several cases of chorea which he had seen in Professor Monti's clinic in Vienna. Monti suggested that endocarditis might be the cause of both rheumatism and chorea. Dr. Hill has used acetyl-salicylic acid exclusively for three years for chorea with good results, insisting on cessation of school and rest in bed.

Dr. J. F. SINCLAIR spoke of having employed fluid extract of ergot in the treatment of chorea. One child who had not done well upon arsenic or aspirin, but who had already got well upon ergot, was again cured during a recurrence of the chorea upon ergot.

Dr. WEISENBURG added that he did not consider the movements of the choreas of childhood similar to those of the choreas of adults, notably Huntington's type. For some years he has had moving pictures of infectious chorea and hysterical chorea, and repeated studies by this means have impressed upon him the marked difference in the two, which anyone seeing them under such auspices could instantly detect. There is, however, a definite resemblance between the movements of Huntington's chorea and generalised tic. In his experience most cases of fatal chorea occur in young adults, and deaths in young persons are extremely rare.

Epilepsy in Childhood.—Dr. J. KENDRIC LLOYD read this paper by
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invitation. Epilepsy is in more senses than one a disease of childhood. Thus, Gowers found that more than 25 per cent. of all cases began under the age of 10 years, and nearly 50 per cent. between the ages of 10 and 20 years. Spratling in 1302 cases found that 163 cases began in the first year of life, 38·5 per cent. in the first ten years, and 43·5 per cent. in the second decade—or 82 per cent. of all his cases began before the age of 20. Thus it happens that the distinction between infantile convulsions and epilepsy is somewhat arbitrary, and is based largely on the fact that the former are merely transient. But scientific grounds are lacking, because the infantile convulsion is in its form epileptic. In any one of the given cases it would have been impossible at the date of the first fit to say whether it was simply a case of infantile convulsion, or would prove to be one of essential epilepsy. Féré and others look upon all cases of infantile convulsions with suspicion, and believe that there is a neuropathic taint which is the predisposing cause, while the poison of the infectious diseases is merely an exciting cause. Certain it is that some cases of essential epilepsy begin in one of the infectious diseases, such as scarlatina or measles. Reflex epilepsy has rather gone out of fashion; and a microbic origin for epilepsy—such as we have in tetanus—has not been demonstrated. The internal secretions are now attracting much attention, but there is little ground for believing that the cause of epilepsy lies in any one of these secretions. Epilepsy has in a few instances been associated with disease of the thymus or the thyroid glands; and in cases of tumour of the pituitary body epileptic fits (especially of the uncinata type) have been observed, but the fits have not been shown to be an essential part of the picture. As regards surgical intervention, disappointment usually follows on operation. Focal epilepsy no longer has quite the significance it once had, for many cases of essential epilepsy have a focal character, and this is no indication as a rule for operation. We cannot cut epilepsy out of the brain cortex. In traumatic cases surgery may be indicated. In treatment there is not much that is new. The bromide treatment still holds good, and should be combined with the iodides. Hygienic control, with mental and moral discipline, is also unimportant in the case of children, even as much so as drugs. Salt-free treatment, treatment with snake-venom, and with hypophyseal extract, have been advocated of late, but my experience with them is not sufficient to allow me to form a judgment.

Société de Pédiatrie, Paris.

February the 11th, 1913. *Bulletin No. 2.*

The Anti-emetic Properties of Sweetened Condensed Milk.—MM. VARIOT, LAVIALLE and ROUSSELOT found that in children admitted into crèches, vomiting in almost all cases ceased or lessened the day following a régime of condensed milk, and attribute this to the important modification that the casein undergoes in the preparation of such milk. Condensed milk dissolved in water and treated by an acid yields a turbid fluid, but no separation of curd even after two days. The casein seems to be in a form analogous to the colloidal state and will pass through filter-paper. Under the

same conditions, ordinary sterilised milk gave a more or less solid precipitate of casein mixed with fatty matter. Experiments made to ascertain whether the high percentage of sugar was the cause of the anti-emetic properties gave negative results when the sugar was added to cold sterilised milk, but when heated to 108° for three quarters of an hour, the results seemed analogous to that of condensed milk. The speakers considered that hypersaccharation under the influence of heat modified the casein, rendered it more digestible and arrested vomiting. They found, however, a marked diminution in the quantity of earthy phosphates.

The Efficacy of Rectal Injections in Serumtherapy.—M. GUINON, in answer to the remarks of M. Lesné at the last meeting, related a case of diphtheria of extreme gravity cured rapidly by two rectal injections of 20 c.c.

Congenital Myxœdema.—M. ZUBER showed a man, aged 21 years, the subject of congenital myxœdema as shown by a photograph taken at the age of three months. Thyroid treatment was commenced at the age of eight years. At that time the child was of the weight and height of a child of two years. Under the influence of treatment growth took a normal course, but the child never made up the six years of retarded development either in weight, height, or cerebral activity. He began to speak at the age of nine years, and at the present time had a marked stammer.

Suprarenal Origin of so-called Acetonæmic Vomiting.—M. TERRIEN described three cases of intractable vomiting in children having certain symptoms suggestive of suprarenal insufficiency, asthenia, lumbo-abdominal pains, white line phenomenon, and disappearance of vomiting under the influence of adrenalin. One case in whom it was not administered died suddenly. There was no appendicitis found at the autopsy in this case; the liver was large and slightly fatty.

M. GUINON said he also had obtained good results from the administration of adrenalin, but thought that the causation of such cases was complex, and that the part played by the suprarenals should not be insisted upon merely on account of the disappearance of vomiting.

M. TRIBOULET, recognised the frequency of suprarenal hæmorrhages in cases of sudden death, but thought that intestinal intoxication played the more important part.

Anaphylactic Shock in Diphtheritic Serumtherapy.—MM. HALLÉ and BLOCH reported the case of a boy, aged 2½ years, in whom a re-injection for a relapse fifty days after the first administration of serum caused a series of violent disturbances, intense pruritus, coma, diarrhœa, vaso-motor troubles and purpura. Recovery took place.

Two Cases of Familial Hæmophilia. Hæmophilic Arthritis simulating Osteomyelitis.—MM. MÉRY, SALIN and WILBORTS reported two cases, boys of five years and two years. The first had an arthritis of the left knee with subperiosteal hæmorrhage. The enormous swelling of thigh and increase in size of the lower end of femur resembled osteomyelitis, but the absence of local pain and but slight elevation of temperature contra-indicated it. Injections of anti-diphtheritic serum were given with some benefit. The other child had epistaxis only. In the treatment of this condition fresh horse-serum is much more active than anti-diphtheritic; old serum is useless. Spleen extract is active, and so also is the serum of another hæmophilic.

Fulminating Meningitis in a Girl of 12 months.—MM. RIBADEAU-DUMAS and DEBRÉ.

Collections of Granulations in the Pulmonary Alveoli of Infants.—M. DEBRÉ showed a number of skiagrams taken by M. A. WEIL.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

The leucocytes of healthy children (*Arch. f. Kinderheilk.*, 1912, LIX, p. 161).—**Dina Rabinowitsch** examined the blood of 150 children at different ages, with the following results: (1) In healthy children up to the age of fifteen the total number of leucocytes per c.c. is 6000 to 7000, as in the adult. Sex makes no difference. (2) Polymorphonuclears increase in number with the age of the child. In the first year they form 30 per cent. of all the leucocytes, and in the fifteenth or sixteenth year 70 per cent. as in adults. (3) In the first two years the lymphocytes constitute 60 per cent. of all the white cells, and continually decrease in number, so that in a child of fifteen or sixteen they form about 30 per cent. as in the adult. (4) The number of eosinophiles is on the average 4 to 6 per cent., but it varies within wide limits for children of the same age. (5) The number of transitionals in the child is on the average 2 to 3 per cent. (6) The number of mast-cells in the child is small—about 0·3 to 0·6 per cent. (7) The number of large mononuclears is 1·3·3 per cent., and is about the same for all ages.

J. D. ROLLESTON.

The coagulation-time of blood in infants and children (*Amer. Journ. Dis. of Child.*, 1913, I, p. 1).—**H. C. Carpenter** and **J. C. Gittings** review the various methods which have been adopted in the estimation of the time of blood-coagulation, and record the very wide variations which have been found by different observers. They do not regard as satisfactory any method in which the time of coagulation alone is estimated without reference to the consistency of the clot formed. For this reason the authors make use of a modification of the Biffi-Brooks coagulometer. They found the coagulation-time in healthy and unhealthy children to be on an average 9·4 and 9·7 minutes, and they conclude that it seems "very improbable that any important variation exists in the mere time of coagulation of the blood in diseases other than of the so-called hæmorrhagic type." In spite of much careful thought and work the authors do not appear much in favour of the clinical value of estimations of the coagulation-time at present, and state that there is much more study required of blood-coagulation *per se* before satisfactory results can be obtained.

REGINALD MILLER.

Diagnostic significance of Döhle's inclusion-bodies (*Deutsch. med. Woch.*, 1912, XXXVIII, p. 2454).—**A. Belák** examined eighty-one cases in the St. Johannis Hospital, Buda-Pesth, and came to the following conclusions: The inclusion-bodies have nothing to do with the causal agent of scarlet fever, as they are found in many other diseases, and even in normal blood. A negative result alone is of diagnostic value, as they are always present in scarlet fever.

J. D. ROLLESTON.

Döhle's inclusion-bodies in scarlet fever ('*Nederland. Tijdschr. v. Geneesk.*' 1912, II, p. 2138).—**J. C. Schippers** and **Cornelia de Lange** examined the blood of twenty scarlet fever patients and twenty controls. In scarlet fever the number of the bodies usually diminished on the fifth day, although they were by no means rarely met with after that date. Numerous bodies were also found in cases of tonsillitis, erysipelas and lobar pneumonia. A dog injected subcutaneously with a streptococcal culture from a scarlet fever case showed inclusion-bodies of the same size, shape, and distribution as those found in man. The writers regard the bodies as a sign of the reaction of the cells to the invading micro-organisms. The diagnostic value of the inclusion-bodies in scarlet fever is limited, but their absence in a disease accompanied by high fever is a strong argument against its being scarlatina.

J. D. ROLLESTON.

The inclusion-bodies in scarlet fever ('*Berl. klin. Woch.*,' 1912, XLIX, p. 2124).—**H. Bongartz** examined eighty cases, aged from 5 days to 16 years, in the Nuremberg Children's Clinique. Twenty-one were healthy and 59 were suffering from various diseases. The results were as follows: Of the healthy cases 4 were completely negative, and 17 were positive. Of the sick children 4 were negative, 54 positive and 1 doubtful. The positive cases included 11 of scarlet fever, 6 of diphtheria, 4 of acute bronchitis, 3 of pertussis, 4 of bone tuberculosis, 4 of vomiting and diarrhoea, and the negative cases, measles, heart disease, appendicitis with peritonitis, and a case of surgical scarlatina. In febrile diseases the number of inclusion-bodies increased, and in many cases were found in almost every polymorphonuclear leucocyte. They cannot be regarded as pathognomonic of scarlet fever.

J. D. ROLLESTON.

Four types of anæmia occurring in children ('*Med. Chron.*,' 1912, XXIII, p. 312).—**Hugh T. Ashby** discusses the anæmia which occurs in children in association with tuberculosis, rheumatism, chronic heart disease, and that which corresponds to chlorosis in adults. In tuberculosis he has noticed that marked anæmia is more a feature of such cases as show bronchial gland infection than those of pulmonary tuberculosis, excluding cases of acute generalised miliary tuberculosis. An interesting illustration of the rapid production of anæmia in acute rheumatism is given: in a girl, aged 6 years, in four days the red corpuscles dropped from 5 million to 3,800,000 per c.mm., and the hæmoglobin from 65 to 50 per cent. He agrees with most observers in stating that iron is useless in the treatment of anæmia due to active rheumatism.

REGINALD MILLER.

The anæmia of school-children and its prophylaxis ('*Prag. med. Woch.*,' 1912, XXXVII, pp. 633, 648, 663).—**J. Mendl** regards this form of anæmia as so distinctive that he proposes to call it *pseudo-anæmia infantum scholaris*. It cannot be diagnosed without an examination of the blood, both quantitative and in stained specimens. Hence the reports of the school doctors, where the diagnosis is made by simple examination, are absolutely valueless. The blood picture is peculiarly variable, but its most general characteristics are (1) diminution of the polynuclear neutrophile leucocytes, with (a) increase of the eosinophiles, mononuclears and lymphocytes; (b) increase of the eosinophiles and lymphocytes; (c) with increase of the mononuclear leucocytes and lymphocytes (rare); (d) with increase of the lymphocytes alone (rare). (2) Increase of the polynuclear neutro-

philes with increase of the eosinophiles, together with diminution of the lymphocytes (rare). The changes are rather qualitative than quantitative. Malnutrition is certainly a factor, but not the chief one; this pseudo-anæmic condition is found in well-fed school-children and among the teachers also. The long hours in the air of the school-room with the physical and mental strain are the chief cause; helminthiasis is another cause never to be ignored. Mendl gives some attention to prophylaxis, which practically includes all that is known by school hygiene—feeding, baths, good ventilation of the school-rooms, and so on. M. D. EDER.

The ætiology of infantile splenic anæmia and its relation to syphilis and tubercle (*La Pediatria*, 1912, xx, p. 801).—**G. A. Petrone** publishes thirteen cases, which show that this condition may depend on various causes, some known, others unknown or uncertain. In a certain number of cases the cause is congenital syphilis; in others, syphilis in the parents, not being transmitted as such to the child's organism, has only the value of a predisposing cause by weakening the hæmatopoietic organs and preparing them for the action of pathogenic agents which attack them after birth. In some cases bad feeding and digestive toxæmia play a part. Tuberculosis rarely plays a part in the ætiology, and then only as a predisposing or accessory cause. VINCENT DICKINSON.

Splenic anæmia and splenectomy (*Austral. Med. Gaz.*, 1913, xxxiii, p. 173).—**T. Ambrose** describes a case of splenic anæmia in a girl, aged 7 years. Splenectomy was refused. The case, which ended fatally, was interesting from the age of the child, the disease being very rare under ten years of age, and also from the fact that injections of adrenalin caused the liver to decrease 4 in. in size. F. R. B. ATKINSON.

Leishman's anæmia (*Arch. f. Kinderheilk.*, 1913, lix, p. 321).—**G. Canonia**.—From October, 1909, when this condition was first described by Jenma, of Palermo, until April, 1911, 29 cases had been recorded (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, vii, pp. 426-7; 1911, vii, p. 424; 1912, ix, p. 373). Canonia reports 37 more cases: 10 were aged from six months to one year, 18 from one to two, 8 from two to three, and 1 was aged four years. All but two died. The duration of the disease was usually six months. Death was due to cachexia and an intercurrent disease, such as broncho-pneumonia or gastro-enteritis. A large number came from epidemic foci; only a few cases were sporadic. J. D. ROLLESTON.

Variations in the leucocytosis of the blood in Leishmaniosis (*Riv. di clin. Pediat.*, 1912, x, p. 889).—**A. Longo** gives details of various cases observed by him, in which he finds that the leucocyte contents in a given subject may vary in the course of a single day from a mild leucopenia (6000-6400) to a severe one (2400-2800), and to these variations he attributes the uncertainty which dominates the hæmatology of Leishmaniosis. Even baths given to reduce hyperpyrexia may convert a severe leucopenia into a slight leucocytosis. This artificially produced condition is not, however, comparable to the variations observed in normal defervescence. Most probably these thermic variations are more apparent than real in the sense that they are due to leucocytic migration from the peripheral circulation to the organs which are the seat of the parasite, and *vice versa*. Of the various kinds of leucocytes, it appears that the small mononuclears do not share in this migration in which all the other kinds participate. VINCENT DICKINSON.

Acute lymphatic leukæmia in early life (*Am. Journ. Dis. Child.*, 1913, v, p. 43).—**A. Strauch** describes the symptoms, with a case in a boy, aged 4 years, ætiology and treatment of this condition, and finds that the lymphatic tissue in children probably reacts more markedly to pathological stimuli than in adults, hence lymphatic leukæmia is prevalent, while the myeloid form is very rare in childhood and is met with in subsequent periods of life.

F. R. B. ATKINSON.

Myeloid leukæmia in a child, with blood-picture of so-called megaloblastic degeneration (*Lancet*, 1913, i, p. 94).—**C. H. Treadgold**.—The patient was a boy, aged 13½ years, the chief interest in whose case was the condition of the blood, which showed all possible varieties of nucleated red-cells, numbering at the last examination 184,000 per cubic millimetre. The predominating cell was a megaloblast.

F. R. B. ATKINSON.

A family of "bleeders" in Basle (*Zentralbl. f. Kinderheilk.*, 1913, xviii, p. 1).—**Hagenbach-Burckhardt** describes the genealogy of forty-one ascendants of the family; twenty-three of these were males, and ten were affected. None of the females were "bleeders." In the earlier generation all the males were "bleeders"; in the generation following five out of eleven. Injections of fresh horse-serum seemed to have some beneficial effect in stopping the bleeding. In two cases abscesses of the liver were found on section.

F. R. B. ATKINSON.

Hæmophilia complicating appendicectomy (*Med. Press. and Circ.*, 1912, ii, p. 633).—**D'Arcy Power** operated on a Jewish boy, aged 16 years, for appendicitis in the quiescent interval. The removal of the appendix was accomplished without trouble, but it was noticed that the hæmorrhage was more free than usual. On the same evening the boy presented signs of concealed hæmorrhage, and so the wound was reopened and a quantity of fluid blood washed out of the pelvic cavity, but no bleeding point could be discovered. Three days later the abdomen was reopened because of suspected peritonitis; there was no peritonitis, but there was a further accumulation of blood in the retro-cæcal region. The boy died the same evening. A post-mortem examination was not allowed, but the case was apparently one of hæmophilia—a most dangerous complication in this otherwise simple operation of appendicectomy.

J. ALLAN.

Hæmophilia treated by human blood-serum (*Journ. Amer. Med. Assoc.*, 1913, lx, p. 44).—**A. H. Traver** reports the case of a boy, aged 5 years, who suffered from hæmophilia, and was one of a family of bleeders. In September he slightly bit his tongue, but the bleeding persisted for six days and was not controlled by tannic acid, epinephrin or injection of horse-serum. Finally, serum was obtained from the blood of the patient's father, and 20 c.c. were injected subcutaneously into the child's buttocks. Within twenty minutes a firm clot began to form on the tongue. It gradually increased in size for twelve hours until it became so large that it was difficult for the child to close his mouth. The clot was consequently removed, but without any recurrence of the hæmorrhage. Two more injections were given as a measure of precaution, but they scarcely appeared necessary as there was but slight bleeding after the first. The child has had no subsequent injury, and it remains to be seen if hæmorrhage is troublesome in the next accident.

T. R. WHIPHAM.

Infantile scurvy and modern conditions (*'Arch. of Ped.,'* 1912, xxix, p. 665).—**W. P. Northrup** gives an account of the cases of infantile scurvy which occurred in America at the time when the disease was first recognised as a separate entity in England. He thinks the frequency of the disease will probably increase in future years.
REGINALD MILLER.

Cases of infantile scurvy (*'Arch. of Ped.,'* 1912, xxix, p. 857).—**C. A. Frost** narrates two cases in children 2 years and 15 months of age respectively.
F. R. B. ATKINSON.

Injections of peptone as a cure for Barlow's disease (*'Riv. di clin. Pediat.,'* 1912, x, p. 944).—**G. Funaioli** describes the case of a breast-fed infant, aged 7 months, suffering from infantile scurvy, to whom he administered for three days 5 c.c. of a solution composed of Witte's peptone gr. v, sodium chloride gr. v, distilled water gr. cl. Marked improvement followed, and the injections were continued every other day, then every third day, until nine had been given.
VINCENT DICKINSON.

The condition of the blood in the rheumatoses (*'Jahrb. f. Kinderheilk.,'* 1913, lxxvii, p. 53).—**J. Tallend** describes under the term rheumatoses, rheumatism, chorea, and endocarditis, and finds that in these three conditions if the disease becomes aggravated the hæmoglobin and red blood-corpuscles decrease in amount and number, and the leucocytes, especially the neutrophiles, increase; as the conditions improve the reverse takes place.
F. R. B. ATKINSON.

Diseases of the circulatory system in children (*'Arch. de méd. des enf.,'* 1913, xvi, p. 11).—**S. Moreira** has found in 16,658 children ill with various complaints 16 cases (0.09 per cent.) suffering from lesions of the heart, and 1 case (0.006 per cent.) from lesions of the vessels. The lesions were as follows: aortic disease, two cases; pulmonary disease, four cases; mitral disease, ten cases. Examination with the sphygmogram showed diastolic murmurs in three cases out of fifteen, marked cataplectic pulse twice, and subdiastolic murmurs ten times.
F. R. B. ATKINSON.

Blood-pressure in children (*'Arch. de méd. des enf.,'* 1913, xvi, p. 102).—**Mello-Leitão** examined the blood-pressure of normal children aged from one month to five years with Erlanger and Hooker's sphygmomanometer and arrived at the following conclusions: The blood-pressure in children is normally low. It varies from 62–68 mm. Hg. in the second month of life and gradually rises to 78 and 100 mm. in the seventh month. From the seventh to the eighth month the readings were from 78–84 mm., but no breast-fed children at this age were examined. From the eighth month to five years the blood-pressure remained almost the same, but on the whole showed an upward tendency. The pulse-pressure increased slowly, and was relatively higher than in adults: in the second month it was 18 mm. Hg., in the seventh month 28 mm., and from the eighth month until five years it varied from 20–34 mm. Sex and race had no influence on the blood-pressure in childhood. Artificial or mixed alimentation had a decidedly hypotensive action.

J. D. ROLLESTON.

Rigidity of the arteries in children (*'Wien. klin. Woch.,'* 1912, xxv, p. 920).—**W. Rittenhouse** examined 250 children from two to fourteen years

for arterial rigidity, to the presence of which in children Hamburger had recently drawn attention (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, p. 470). None of the patients were febrile or severely ill. The results were as follows: There was not a single case of palpable arterial wall in the second year, and a high degree of rigidity was found only after the tenth year. Up to the sixth year the frequency of temporal rigidity exceeded that of radial rigidity, while after the seventh year the reverse was the case. A slight degree of rigidity was extremely common in children after the seventh year; at puberty it was found in 80 per cent. and was more frequent in the radial than in the temporal artery. In a large number of cases, though the artery was rigid the blood-pressure was low, so that no causal connection could be traced between the two phenomena. Like Hamburger, the writer found that all the children with a high degree of arterial rigidity complained of nervous symptoms. As the nervous excitement subsided, the rigidity disappeared.

J. D. ROLLESTON.

Thrombosis in the confluens sinuum ('*Lancet*,' 1913, I, p. 453).—**James Rae** records the case of a boy, aged 4 years, with chronic internal hydrocephalus, who died of right lobar pneumonia. The confluens sinuum contained a pyramidal blood-clot which lay with its apex directed towards the straight sinus. Its weight was just under $\frac{1}{4}$ oz., and its cut surface was visibly laminated. No organisation was in progress. A few tuberculous glands were found in the thorax and abdomen. During life it was noted that the frontal and the right angular veins were very prominent, and at the necropsy the veins of the cerebellum, those passing through the right foramen cæcum and the Sylvian veins were much dilated. The sinuses of the dura mater were greatly enlarged. The case appears to be unique.

AUTHOR'S ABSTRACT.

Fatal post-operative thrombosis ('*Austral. med. Gaz.*,' 1911, xxx, p. 673).—**F. J. E. Juttner** narrates two cases, one of thrombosis of the celiac axis and superior mesenteric artery following tonsillectomy in a girl, aged 12 years, and the other in a girl, aged 18 years, of thrombosis and cerebral embolism following appendectomy. There was no autopsy.

F. R. B. ATKINSON.

Cavernous sinus thrombosis ('*Practitioner*,' 1913, xc, p. 562).—**A. Dighton** states that a case of his occurring in a girl, aged 13 years, is the only case of this affection reported cured.

F. R. B. ATKINSON.

Traumatic rupture of the thoracic aorta ('*Austral. Med. Journ.*,' 1911, I, p. 115).—**H. I. Holmes**.—A boy, aged 15 years, whilst cycling collided with the shaft of a carriage, was picked up in a state of collapse, and died seven hours after the accident. Holmes considers that the rupture of the aorta found on section was due to either direct transmission of the force, or to the compression the aorta received owing to its close position to the vertebral bodies.

F. R. B. ATKINSON.

A case of congenital aortic stenosis ('*Écho méd. du Nord*,' 1913, xvii, p. 108).—**Pierret** and **E. Verhaeghe** report a case in a youth, aged 16 years. The ventricles were much dilated; dyspnoea occurred on the slightest exertion. There was a marked systolic aortic murmur propagated to the carotids with its maximum at the second right intercostal space.

F. R. B. ATKINSON.

Congenital dextrocardia (*Thèses de Paris*, 1912-13, No. 107).—**Mme. Culcer-Petresco** has collected fifty-eight cases, including one hitherto unpublished in a girl, aged 9 years, in whom dextrocardia was associated with interventricular communication. Of the fifty-eight cases, twenty were accompanied by total or partial inversion of other organs, but without malformation. Twenty were examples of dextrocardia pure and simple, and the rest showed cardiac or vascular malformations as well. Two thirds of the cases were in males, and one third in females. Dextrocardia by itself is compatible with a long and laborious life, but when malformations are associated with it, with very rare exceptions life is impossible, or at least considerably shortened.

J. D. ROLLESTON.

Bradycardia in mumps (*Thèses de Paris*, 1912-13, No. 173).—**G. C. Roux**.—The thesis is based on the study of 274 cases, 230 of whom were adults or adolescents and 44 children from three to fifteen years. The writer's conclusions are as follows: (1) Bradycardia is an almost constant symptom of mumps. It is of diagnostic value in doubtful cases, especially when the parotid swelling is no longer appreciable. (2) The degree of bradycardia is usually moderate—50 per minute, the lowest observed being 40. It is not accompanied by any of the functional troubles met with in pronounced bradycardia. (3) Tracings show that the bradycardia is complete, and that there is no disturbance of conductivity of the bundle of His. (4) It should be classified among the nervous bradycardias. It is transitory, variable, and attenuated by change of position, effort, respiration, deglutition, emotion, or fever. It disappears after sufficient doses of atropine sulphate. (5) Only exceptionally can it be reproduced experimentally in the dog by injection of the serum of patients suffering from mumps. (6) It appears to be due to a very slight degree of meningeal involvement, which is an almost constant accompaniment of mumps, as shown by clinical symptoms and examination of the cerebro-spinal fluid (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1907, IV, p. 308, and 1911, VIII, p. 275).

J. D. ROLLESTON.

Ophthalmology.

On the duty of the practitioner in cases of ophthalmia neonatorum (*Lancet*, 1912, II, p. 1358).—**Sydney Stephenson** describes the duty of the practitioner in dealing with cases of ophthalmia neonatorum under the following three heads: (1) prevention; (2) notification; (3) treatment. Preventive measures ought to be adopted at every birth. Two classes may be distinguished: (1) Where the existence of gonorrhœa is not and (2) where it is suspected. In the second simple cleansing of the eyes after the head is born will suffice. In the first class the use of a germicide dropped into the eye is essential. One per cent. solution of nitrate of silver is the best, and is to be preferred to the 2 per cent. solution advised by Credé. Other agents of this nature are argyrol (15 per cent.), protargol (10 per cent.), and sophol (5 per cent.). Additional precautions to be adopted in every case are first to cleanse the baby's hands and wrists soon after birth so as to prevent auto-inoculation of the eyes, and secondly, to take care that the attendant does not use the same water for the baby's face and body in the course of the first bath. All cases should be notified. In

treatment, thorough cleansing by frequent lavage is most important. Perhydrol (pure acid-free peroxide of hydrogen) is invaluable in getting rid of the discharge. Between the ablutions the conjunctival sac should be filled with pure vaseline or with bleno-lenicet. This latter is a salve which contains 5 to 10 per cent. lenicet (basic aluminium acetate) in euvaseline, an ointment basis of white vaseline, lanoline and ceresin. Instillation of silver nitrate solution 10 gr. to the ounce is advised. When the discharge has almost ceased zinc chloride drops (1 gr. to the ounce) are recommended. In treating corneal ulceration the author employs eserine (2 gr. to the ounce) in preference to atropine, and if matters do not speedily improve the best plan is to apply the cautery without further delay. J. ALLAN.

Sight-saving as a national movement (*Therap. Gaz.*, 1912, xxxvi, p. 859).—E. Park Lewis emphasises the great importance of preventive measures as compared with curative ones. It was recommended that if on the first page of each school book were placed simple directions as to the proper care of the eyes, it would be of help to the young student and even to the teacher. Regarding ophthalmia neonatorum, (1) every birth should be promptly reported; (2) every inflamed eye in a newborn child should be reported at once; (3) the department of public health should be vested with authority to take care of all such children as are not receiving care—at once—and should make a complete report from time to time of the number of cases of ophthalmia neonatorum, with an exact statements of the end-results; (4) failure to report cases should be heavily penalised. Educational measures—through lectures, circulars, public exhibits, etc.—the demand on the birth report as to whether a prophylactic has been employed, even the gratuitous distribution of the prophylactic, important as these are, are all secondary and subsidiary to the enactment of suitable laws and the development of public sentiment that will insure their enforcement. J. ALLAN.

Treatment of ophthalmia neonatorum (*Therap. Gaz.*, 1912, xxxvi, p. 691).—A. Brav emphasises the importance of preventive measures and points to the value of Credé's method as a prophylactic agent. In treating cases cold compresses are useful, as they reduce inflammation and swelling and relieve blepharospasm. Antiseptic lotions are essential, and the best is bichloride of mercury solution 1 in 10,000, which should be used to irrigate the conjunctival sac every half hour for the first two days; 25 per cent. argyrol drops may be instilled after irrigation. A 1 per cent. solution of silver nitrate may be painted on the everted lids, but this should only be done by the physician himself. If there is any corneal ulceration the best thing to do is to use iodoform powder daily dusted upon the ulcerated area. Dionin powder is a useful adjunct, especially when the ulcer is beginning to heal; it greatly reduces the opacity. The author does not favour cauterisation of the ulcer. In his opinion all cases of ophthalmia neonatorum should be treated at home. J. ALLAN.

Ophthalmia neonatorum and its relation to blindness (*Therap. Gaz.*, 1912, xxxvi, p. 861).—E. B. Heckel refers to the malignancy of this type of inflammation and its causation of many cases of blindness. Prophylactic measures have in recent years reduced the number of cases. Much good has been and will be done by legislation. J. ALLAN.

Gonorrhœal ophthalmia treated with gonococcus vaccines ('*Med. Record*,' 1913, I, p. 428).—**W. K. Mittendorf** records nine cases, six of which occurred in infants aged from 3 days to 1½ years. A satisfactory result was obtained in each case with almost immediate reduction of the inflammation. Fifty million gonococci were given as an initial dose and 100 million in subsequent doses. The vaccine should not be used alone but be combined with local treatment. **J. D. ROLLESTON.**

Non-gonorrhœal ophthalmia in the newborn and in infants ('*Deut. med. Woch.*,' 1913, xxxix, p. 74).—**C. Credé-Hörder**.—Macroscopically this affection does not differ from a commencing or healing true gonorrhœal ophthalmia. The cornea, however, is not affected, and the secretion is scanty and serous rather than purulent. The course of the disease varies according to the causal micro-organism. Ophthalmia caused by Gram-positive diplococci occurs chiefly in infants, not in the newly born. The secretion is serous and contains only traces of pus. Cleansing with boric acid solution produces a cure in eight to ten days. Pneumococcal ophthalmia is much more severe. Three cases of *B. coli* ophthalmia which occurred on the fifth, seventh and eleventh days of life lasted from four to nine days. The secretion was chiefly serous. As a rule non-gonorrhœal ophthalmia is a harmless disease, but if untreated it may lead to chronic conjunctivitis. **J. D. ROLLESTON.**

Meningococcus conjunctivitis ('*Ophthalmoscope*,' 1913, xi, p. 75).—**H. McKee**.—A girl, aged 6 years, was admitted to hospital on the fourth day of epidemic cerebro-spinal meningitis. She had marked conjunctivitis with muco-purulent discharge, examination of which showed meningococci. Conjunctivitis is frequent in epidemic cerebro-spinal meningitis and is usually an early symptom, so that, as in this case, the diagnosis of meningococcus infection may be made before lumbar puncture. **J. D. ROLLESTON.**

Tuberculous membranous conjunctivitis ('*Arch. d'ophtalmol.*,' 1912, xxxii, p. 693).—**D. Gourfein**.—A girl, aged 6 years, developed swelling of the right upper lid. It was readily everted, and showed a greyish membrane lining the palpebral conjunctiva. The ocular conjunctiva was injected. There was no membrane on the lower lid. The preauricular, parotid and submaxillary glands were swollen. The general condition was bad, and the temperature high with marked evening rise. The eye was treated with 1 in 3000 perchloride lotion and hot compresses. The preauricular and parotid glands suppurated, but the conjunctivitis cleared up entirely. Examination showed the presence of virulent tubercle bacilli. When seen eight years later the child was in good health. **J. D. ROLLESTON.**

Ætiology of phlyctenular conjunctivitis ('*Thèses de Paris*,' 1912-13, No. 4).—**C. Gouffier**.—Phlyctenular conjunctivitis is more frequent in girls than boys. It is rare in the first year of life, is most frequent between two and six, and then progressively decreases till twenty. A few cases are found between twenty and thirty; subsequently it is most exceptional. The season of its greatest frequency begins in April and reaches its maximum in May and June. It is an affection of the poorer classes, but is occasionally found in the well-to-do. Its origin has been sought for in various external causes such as foreign bodies, chemical irritants, parasites, and infections of the neighbouring tissues; but clinical and experimental evidence show that

these causes are not sufficient to produce it. It is usually associated with scrofulo-tuberculous infections, though never with phthisis, rhino-pharyngeal affections, and impetigo of the face and scalp. A positive reaction to tuberculin is obtained in 93.75 per cent., and in most cases indolent glandular or visceral lesions are present. Experimental attempts to inoculate the anterior chamber of the rabbit, guinea-pig or monkey with phlyctenular conjunctivitis have always failed. At present it must be left undecided whether phlyctenular conjunctivitis should be regarded as an attenuated form of tuberculosis or as a banal affection grafted on a special soil, which in most cases is tuberculous. The thesis contains the histories of thirty-eight cases.

J. D. ROLLESTON.

Infective optic neuritis in measles and scarlet fever (*Arch. f. Augenheilk.*, 1912, LXXI, p. 1).—A. Dutoit records three cases. (1) Girl, aged 5½ years. On the fifteenth day of a mild attack of measles the temperature, which had been normal for two days, rose again. Ophthalmoscopy showed papillitis and retinal hyperæmia of the right eye; the left eye was normal. Recovery in eighteen days. (2) Boy, aged 8 years. Papillitis and limitation of visual field of right eye, accompanied by rise of temperature and anorexia on seventeenth day of measles. Recovery in thirty-three days. (3) Girl, aged 7½ years. Papillitis and retinal hyperæmia of left eye with limitation of visual field on nineteenth day of scarlet fever. There were headache, anorexia, and slight albuminuria. Improvement in a fortnight, but relapse of symptoms on the twentieth day after the onset of the neuritis, accompanied by tonsillitis. Complete recovery in another eighteen days. The cerebro-spinal fluid in each case was normal.

J. D. ROLLESTON.

Familial amaurotic idiocy (*Journ. de méd. de Bordeaux*, 1913, XLIII, p. 46).—Anglade showed a girl, aged 6 years, suffering from this disease, at the Soc. de méd. et de Chir. de Bordeaux. There was no other case in the family. A white streak with a red centre was present in the region of the macula of one eye, and a congenital cataract in the other.

F. R. B. ATKINSON.

Exophthalmos in scurvy (*Journ. Amer. Med. Assoc.*, 1912, LIX, p. 2040).—L. R. De Buys finds that the occurrence of exophthalmos in scurvy is scarcely mentioned in the text-books, and he has only been able to collect from the literature twelve previously reported cases. It appears that the protrusion of the eye may be of variable degree, and may occur at any time during an attack of scurvy. Sometimes it appears suddenly after a fit of crying. Extreme exophthalmos is rarely seen, though protrusion of the eyeball may occur in from 6 to 11 per cent. of cases. The condition may be caused by ecchymoses into the areolar tissue of the orbit or by subperiosteal hæmorrhage. The exophthalmos may appear in one or both eyes and there may be an improvement followed by a recurrence. The symptom is usually a late manifestation, though it may be an early and perhaps the only evidence of the disease. The writer reports an instance in a girl, aged 11 months, in whom the first thing noticed was a protrusion of the right eye after a fit of crying accompanied by discoloration and swelling of the lids. The condition subsided, but recurred three weeks later, and again improved to a certain extent. Suddenly the protrusion again became more marked and slowly increased, but there was no discoloration. When seen, the

child, who was rickety, presented evident signs of scurvy. Under treatment with orange-juice the exophthalmos and scurvy rapidly disappeared.

T. R. WHIPHAM.

Ganglionic glio-neuroma of the optic nerve (*Journ. Amer. Med. Assoc.*, 1913, LX, p. 363).—**G. C. Ruhland**.—A girl had some "eye trouble" at the age of six. One and a half years later she contracted scarlet fever, followed by rapidly developing exophthalmos and complete blindness in the affected eye. Enucleation was performed, and an encapsuled tumour 3 cm. long by 1.5 cm. wide was found in the position of the optic nerve. The eyeball itself was not affected. Microscopical examination showed neuroglia forced apart by hæmorrhage and œdema, and also ganglion cells and nerve-fibres.

J. D. ROLLESTON.

The sociological aspect of errors of refraction (*Therap. Gaz.*, 1912, xxxvi, p. 861).—**Zentmayer** points out that uncorrected errors of refraction may give rise to serious diseases of the eye at a later date. Eye-strain in the school-child is discussed, as was also the possibility of ametropia being a cause of reflex epilepsy. There should be a State law compelling the thorough examination of the eyes of children in school by competent ophthalmologists. A campaign of education of the public should at once be started as to the danger of entrusting the examination of the eyes and the treatment of defective vision to those whose only qualification is their assurance, and their only aim the successful accomplishment of a business transaction.

J. ALLAN.

Reviews.

LES ÉPANCHEMENTS DU PÉRICARDE: ÉTUDE CLINIQUE ET THÉRAPEUTIQUE. (PERICARDIAL EFFUSION: A STUDY OF THE CLINICAL FEATURES AND TREATMENT.) By Le Docteur GERMAIN BLECHMANN. Pp. 349, figs. 40. Paris: J. B. Baillière et Fils, 1913. Price 8 francs.

THIS monograph, which emanates from the clinic of Professor Marfan at the Hôpital des Enfants Malades, Paris, is extremely valuable on account of the exhaustive manner in which the subject is dealt with. The author has utilised to the full the statistics and work of English-speaking writers, scrupulously acknowledges his indebtedness, and supplies a bibliography with 472 references. The three signs which he regards as most important in the diagnosis of pericardial effusion are: (a) from its constancy, Rotch's sign, or dullness in the most internal part of the right fifth intercostal space; (b) from its frequency, Pins' sign, or evidence of a pleural effusion at the left base, which disappears when the patient is placed in the genu-pectoral position; and (c) Hirtz's sign, or the assumption by the patient of the genu-pectoral position in order to obtain relief from the intense dyspnoea caused by a large pericardial effusion. Descriptions and critical considerations of other physical signs are also given, and the whole question of diagnosis is dealt with in great detail. In the important section on treatment a prominent place is given to Marfan's epigastric puncture in the xipho-costal angle, the technique being illustrated by a figure. In one patient this procedure was carried out on no less than seventeen occasions.

The operation of opening the pericardium by the epigastric route was originated more than a hundred years ago by Larrey (1798), but was forgotten, and was re-discovered independently by Jaboulay in France, and by Herbert Allingham and C. Ogle in this country in 1900. In conclusion, this work must long remain a most valuable source of reference on the diagnosis and treatment of pericarditis with effusion. H. D. R.

EYE-STRAIN IN EVERYDAY PRACTICE. By SYDNEY STEPHENSON, M.B., C.M.Edin., D.O.Oxon., F.R.C.S.Edin., Ophthalmic Surgeon to the Queen's Hospital for Children, London. London: The Ophthalmoscope Press, 1913. Pp. 139. Price 3s. 6d. net.

THIS is a collection of articles which have appeared in various journals at different times during the last ten years, and include the Richard Middlemore Post-Graduate Lecture. The author lays particular stress on the frequency of eye-strain as the cause of headaches, and draws attention to the fact that in eye-strain the vision is commonly normal for Snellen's types, and hence the condition is likely to be unnoticed. It is important that the eyes should be fully under the influence of a cyclopegic for the purposes of estimating the error of refraction. The symptoms of ocular headache are described, and the chapter should be thoroughly read by all general practitioners. A chapter is devoted to the condition of pseudo-neuritis, and the differential diagnosis between this condition and true neuritis clearly given. Space will not permit of any further description of the various conditions described in the book, but we can heartily recommend it to every general practitioner as one which should be carefully read and its contents remembered. F. R. B. A.

GUY'S HOSPITAL REPORTS. Edited by F. J. STEWARD, M.S., and HERBERT FRENCH, M.D. Vol. LXV. Pp. 412. London: J. & A. Churchill, 1912. Price to non-subscribers, 10s. 6d.

THE present volume contains much of pædiatric interest. The first article, by Dr. Frederick Taylor, deals with "Fifty-five Cases of Acute Poisoning by Opium or Morphia at Guy's Hospital between 1898 and 1911." Five occurred in children between three months and four years, all of whom recovered. Among the studies emanating from Dr. Hertz's Neurological Department is a note by Dr. W. Johnson on "Mental Deficiency in Children, with Special Reference to the Influence of Congenital Syphilis." Mr. George Kendall and Dr. A. F. Hertz contribute a paper on "Hereditary Familial Congenital Hæmorrhagic Nephritis." Two generations were affected, three out of eight in one generation, and eight out of eleven in the next. In one case abnormal urine was discovered when the patient was only three weeks old, in another at the age of two years, and in the remaining cases in early childhood. Dr. N. I. Spriggs writes on "Congenital Intestinal Occlusion," giving an account of twenty-four unpublished cases, followed by a commentary and extensive bibliography. "Metabolism during Rectal Feeding" is discussed by Messrs. N. Mutch and J. H. Ryffel, who append a "Note on the Presence of Creatin in the Urine of Children." In his Cambridge M.D. thesis, on "The Ætiology of Melæna Neonatorum, with Special Reference to Duodenal Ulcer," Dr. Wilson Tyson records the histories of two personal cases, of seventeen cases which occurred among 21,119 births at Queen Charlotte's Hospital between 1896 and 1910, and of one case at Guy's Hos-

pital. Dr. Herbert French describes a case of "Traumatic Aneurysm of the Heart" in a girl, aged 3 years, resulting from a fall from a third-storey window to the ground. No definite cardiac symptoms were produced during life, but sudden death by spontaneous rupture of the left ventricle occurred on the twentieth day after the accident. Dr. French also contributes a paper on "Adrenal Hypernephroma" in a girl, aged 6 years, who developed pubic hair and hypertrophy of the clitoris when she was eight months old. Death took place five days after the removal of the tumour, and was partly due to metastases in the lung.

J. D. R.

REPORT TO THE LOCAL GOVERNMENT BOARD UPON THE "BIOLOGICAL PROPERTIES" OF MILK, BOTH OF THE HUMAN SPECIES, AND OF COWS, CONSIDERED IN SPECIAL RELATION TO THE FEEDING OF INFANTS.
By JANET E. LANE-CLAYPON, M.D., D.Sc.Lond. London: H.M. Stationery Office. Pp. 95. Price 9d. (New Series, No. 76.)

It is a matter for congratulation that such reports as the present and one (No. 63) previously reviewed in this JOURNAL * are being published by the Local Government Board. They deal with subjects in infant feeding which are so complex and abstruse as to be almost outside the domain of clinical medicine; yet there is no doubt that such research is of great and increasing assistance to clinical work and public health.

In her present report Dr. Lane-Claypon deals with the ferments and "protective substances" in human and cow's milk, discussing their presence, origin and value. The conclusions reached are of considerable interest in view of the widely differing views taught by various authorities. The most definite and important conclusion reached in the report may be given: "Most of the ferments concerning whose presence in milk so much has been heard of in the last ten years are derived from the bacteria which are found in milk. There is no evidence to show that uncontaminated milk contains any ferments capable of assisting in the digestion of food by any of the processes of digestion known to us. The only ferments present in uncontaminated milk are those which are well known to be present in large quantities in the blood, and ferments (whose presence is not firmly established) which act upon substances not known to occur in the processes of digestion."

These and other conclusions are reached by the author's personal work and a review of the researches of others, and we congratulate Dr. Lane-Claypon on the report she has produced.

R. M.

* THE BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, ix, p. 432.